

I S E A 2012 A L B U Q U E R Q U E

: M A C H I N E W I L D E R N E S S

RADIUS BOOKS

in collaboration with

516 ARTS
THE ALBUQUERQUE MUSEUM OF ART & HISTORY
THE UNIVERSITY OF NEW MEXICO
THE FUND AT ALBUQUERQUE COMMUNITY FOUNDATION



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SUZANNE SBARGE

ISEA2012 Executive Producer

516 ARTS Executive Director

Our species will survive neither by totally rejecting nor unconditionally embracing technology—but by humanizing it.

— VIDEO COLLECTIVE RAINDANCE, RADICAL SOFTWARE

ISEA2012 ALBUQUERQUE: MACHINE WILDERNESS is a symposium, multisite exhibition, and season-long series of public events exploring the subject of art, technology, and nature. The International Symposium on Electronic Art is held every year in a different location around the world, and has a 30-year history of significant acclaim. It is an honor for Albuquerque to be selected, as we join the group of host cities that has included Istanbul, Singapore, Belfast, Munich, Helsinki, and other major urban centers around the globe. This project is drawing a wealth of leading creative minds to New Mexico, and engages our local community through in-depth partnerships.

The overall ISEA2012 theme of “Machine Wilderness” references the New Mexico region as an area of rapid growth and technology alongside wide expanses of open land, and focuses on creative solutions for how technology and the natural world can sustainably coexist. The five subthemes explore aspects of this environmental focus, as outlined in the sections of this book and further illuminated by the essays on each section.

The focus days of the ISEA2012 conference also serve as additional subthemes for the exhibition and overall project. The Latin American Forum showcases Latin American digital culture, critical theory, and media arts, highlighting fresh contributions coming from south of the border. The ISEA2012 Education Program focuses on STEM (Science, Technology, Engineering, and Math) education through Art, with programs for teachers and youth developed in partnership with Intel Corporation.

The ISEA2012 exhibition was organized through a combined juried and invitational process. The jury was made up of more than 100 curators and scholars from around the globe, including members of the ISEA International Board of Directors as well as the following featured guest jurors: Giselle Beiguelman, Steve Dietz, Irene Hofmann, and Nancy Marie Mithlo. Final selections were made by the exhibition committee and members of the presenting venues, informed by the jury’s scoring process.

Organizing the expansive ISEA2012 conference, exhibition, and regional collaboration has been an incredible honor and challenge for 516 ARTS, a small, independent, nonprofit community organization. It has stretched our minds and greatly expanded our network of partners. The interdisciplinary nature of the project crosses the divide between the arts and science, opening a vast realm of collaboration and possibility. Art and science, when combined, demystify each other and become more relevant and accessible, offering a tremendous opportunity for creativity and innovation in both fields.

: INTRODUCTION

ANDREA POLLI

ISEA2012 Artistic Director
Mesa Del Sol Chair of Digital Media and
Associate Professor, Art & Art History
and School of Engineering,
The University of New Mexico

THE EIGHTEENTH INTERNATIONAL SYMPOSIUM ON ELECTRONIC ART, ISEA2012 ALBUQUERQUE: *Machine Wilderness*, marks the first major international gathering to deeply examine the complex relationships between existing and emerging technologies and wilderness through the intersection of contemporary art, science, culture, and society. As the home of not only many of the most “wild” places in the country, but also some of the most advanced technologies and scientific discoveries, New Mexico and the Southwest region offer the world a site for reflection and inspiration.

Cultural scholar Leo Marx traced the idea of wilderness and its subsequent transformation under the impact of industrialization as a distinctly American phenomenon. For Marx, the symbol of this transformation was the locomotive and how this machine moved American cultural consciousness away from the sentimental pastoralism of an idyllic garden to a pastoralism of the mind in the transcendental place between the city and raw nature. Because rural happiness was seen in contradiction to productivity, wealth, and power, the old bucolic images of the New World were by necessity replaced with visions of industrial domination.

The locomotive was only the beginning. During the 1940s and’ 50s, the automobile radically altered our landscape, perhaps most strikingly in the American Southwest. The rapid growth that snowballed due to cars and car culture was critically analyzed by scholars and cultural geographers like Ronald Horvath, who coined the term “Machine Wilderness” in the 1960s to describe the large swaths of land being claimed by the automobile. This included superhighways, strip malls, and big-box superstores. Ironically, at almost the same time Horvath’s criticisms started to gain public attention, artists started to imagine the death of the automobile. For example, Ant Farm’s *Cadillac Ranch* from 1974 evokes images of cars buried in the sand of the dust bowl.

During much of the eighteenth and nineteenth centuries wilderness was described as hostile, a brute force to be tamed, and even the visionary champion of wilderness Ralph Waldo Emerson imagined wilderness as perpetually regenerative. This was wishful thinking. We now know that our extensive “taming” of wilderness areas (for example, plowing through the rainforest) has far-reaching consequences, and we face an urgent need to redefine how we perceive and interact with wild spaces. Prominent scholars like Bill McKibben have expressed concern that we are facing “the end of nature” and even Robert Shapiro, the former CEO of Monsanto, confessed that “what we thought was boundless has limits, and we’re beginning to hit them.”

In the twenty-first century the automobile and other technologies that have become embedded in our daily lives need to be reconsidered for their impacts on our futures. Appropriately, participants in ISEA2012 ALBUQUERQUE: *Machine Wilderness* will examine not only what has happened in the past 50 years, but will collaboratively envision what we can and should make happen in the next 50 years and beyond. Many of us ask how we can re-examine and perhaps even break down the paradigm that separates industrial society from our environment. For example, Mexican artists Ivan Puig and Andrés Padilla Domene’s featured work SEFT-1 elegantly reconnects locomotive history to its successor, the automobile, and in so doing asks us to look critically at the impacts of our technological choices.

ISEA2012: *Machine Wilderness* attempts to begin an international dialogue around the following three major questions:

[1] What is wilderness in relation to electronic technology and science?

We ask what historical and contemporary elements of technology and science should we be looking at to sustain our future; for example, holism and preservationism, electronic evolution, generativity, infinite possibility, and nonrepeatability. We look critically at reductionism and reject the “technological fix” as the ultimate solution to any social or environmental crisis. Instead we examine the technologically “appropriate” based on local and temporal conditions. We understand that we cannot use the same mindset to fix a problem that we used to create it.

[2] What is wilderness in relation to economics and values?

We value ecological intelligence over individual intelligence and acknowledge that some cultures that contain highly developed ecological intelligences have been largely silenced because of hubris, willful destruction, and deeply held prejudices to our detriment as a community of species. We question the temple of resourcism that tabulates nature in terms of “deliverables,” and instead we attempt to examine wilderness on its own terms, valuing the lives of nonhuman species, self-willed land, and spaces for rewilding or harmonious cohabitation.

[3] What is wilderness in relation to aesthetics?

This perhaps is the most complex question that we need to address because it not only encompasses science, technology, economics, and values, but also forces us to look at the essential and spiritual aspects of being in the world. It forces us to face our fears and prejudices and to dig deeply into the purpose of all life on this planet and beyond.

The current conditions found in Albuquerque and its surroundings offer a unique microcosm of the social and environmental issues facing our global community in the twenty-first century. For example, like many communities around the world, we are addressing a water crisis. The water supply from the large aquifer that serves the city of Albuquerque is much smaller than original estimates indicate, while populations continue to rise at an unexpected rate. Rising temperatures and drought cause massive fires to plague our region, while our fragile desert ecosystems are disappearing along with the old knowledge of how to live sustainably in this unusual environment. Like many similar regions across the globe, our relative wealth of coal, uranium, and gas comes with a large number of social and environmental dangers.

However, our region also offers unique opportunities for innovative solutions to these problems. The isolation that was needed for the development and testing of atomic capabilities brought the greatest minds and most powerful technologies to the region through the National Laboratories and major university research centers. Intel Corporation has been a major manufacturer here since 1980.

Our multilingual culture and proximity to the border of Mexico offer a unique link to the vast creative energies throughout Latin America, and our position in the center of 22 indigenous communities, many of whom have occupied the area for thousands of years, offers us the chance to learn from a connection to deep time.

Although as host to the eighteenth annual ISEA symposium, Albuquerque is part of a long and important legacy, we have extended and transformed the symposium into a truly interdisciplinary space by encouraging and supporting the development of new works and partnerships. A team of leading international artists, scholars, and curators have come together to form the critical and creative foundation of ISEA2012.

We not only have brought together the vision and passion of leading minds from around the globe and almost 100 local, regional, and international partners from industry, academia, and the community, but have become an incubator for the creation of new works in and about our landscape through a series of special projects and residencies. Each of these projects is unique in design, and it is our hope that they and the ISEA2012 ALBUQUERQUE: *Machine Wilderness* project as a whole will serve as a model for interdisciplinary work to inspire wilderness-based collaborations nationally and internationally far into the future.

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ARTISTS

Evan Apodaca	
Artereazione+Consonant	
Jason Baerg	
Ranjit Bhatnagar	Cristobal Mendoza & Annica Cuppetelli
Krista Caballero	Neil Mendoza & Anthony Goh
Natalie Carlton, Mark Goldman,	Meow Wolf
Scott Moore & Siena Sanderson	Mexican Space Collective
Stephen Cartwright	Daniel Miller
Paula Castillo	Joana Moll & Heliodoro Santos
Lynn Cazabon & Neal McDonald	Antony Nevin
Agnes Chavez & Alessandro Saccoia	Fernando Orellana
SeoungHo Cho	Rubén Ortiz-Torres
Corpus Electric	Nam June Paik & Jud Yalkut
Claire Coté & Anna Keleher	Fred Paulino & Lucas Mafra
Claudia Cumbie-Jones & Lance Ford Jones	Yulia Pinkusevich
D. Bryon Darby	Ivan Puig & Andrés Padilla Domene
DPrime Research	François Quévillon
Robert Drummond	Daniel Richmond
Filipa De Lima Valente	Carlos Rosas
Nina Dubois	Stephanie Rothenberg
Alicia Eggert & Mike Fleming	Meridel Rubenstein, Catherine Harris,
Titia Ex	Stacey Neff & Mark Nelson
Jason Garcia	Teri Rueb, Carmelita Topaha & Larry Phan
Steve Gibson, Justin Love & Jim Olson	Francesca Samsel
Alexander Glandien	Alyce Santoro
Matthew Hebert	Scenocosme:
Stephen Hilyard	Grégory Lasserre & Anaïs met den Ancxt
Joel Hobbie	Michael Schippling
Jim Houk, Kent Frankovich & Adam Pettler	Jessica Segall
Todd Ingalls	Bruce Shapiro
Andreas Maria Jacobs	Te Hunga Wai Tapu:
Nova Jiang	Dr. Te Huirangi Waikerepuru,
Benjamin Johnsen	Te Urutahi Waikerepuru, Ian Clothier,
Waheguru Khalsa	Jo Tito, Te Kahu Kiiwi Henare
Scott Kildall & Nathaniel Stern	& Craig Macdonald
Eve-Andrée Laramée & Tom Jennings	Bruno Vianna
Hector Leiva	Leo Villareal
Mick Lorusso	Nina Waisman
Colleen Ludwig	Ruth West
Mark Malmberg	Paul Wiersbinski & Hanna Hildebrand
Matahiapo:	William Wilson, Pamela Brown, Joy Foley
Kura Puke, Blue Wade,	Jaime Smith & Dylan McLaughlin
Dr. Te Huirangi Waikerepuru	Adrienne Wortzel
& Te Urutahi Waikerepuru	Marina Zurkow
Rachel Mayeri	Christiaan Zwanikken

: EXHIBITION

The main ISEA2012 exhibition, Machine Wilderness, features work that combines art, science, technology and nature, demonstrating the role art can play in re-envisioning the world. The more than 100 artists are from 16 countries. The exhibition is based at both 516 ARTS and the Albuquerque Museum of Art & History, with off-site projects at the Alvarado Urban Farm, the New Mexico Museum of Natural History & Science, the Rainosek Gallery at the University of New Mexico School of Architecture & Planning, and the Richard Levy Gallery. The exhibition was juried and curated through an international call for proposals.

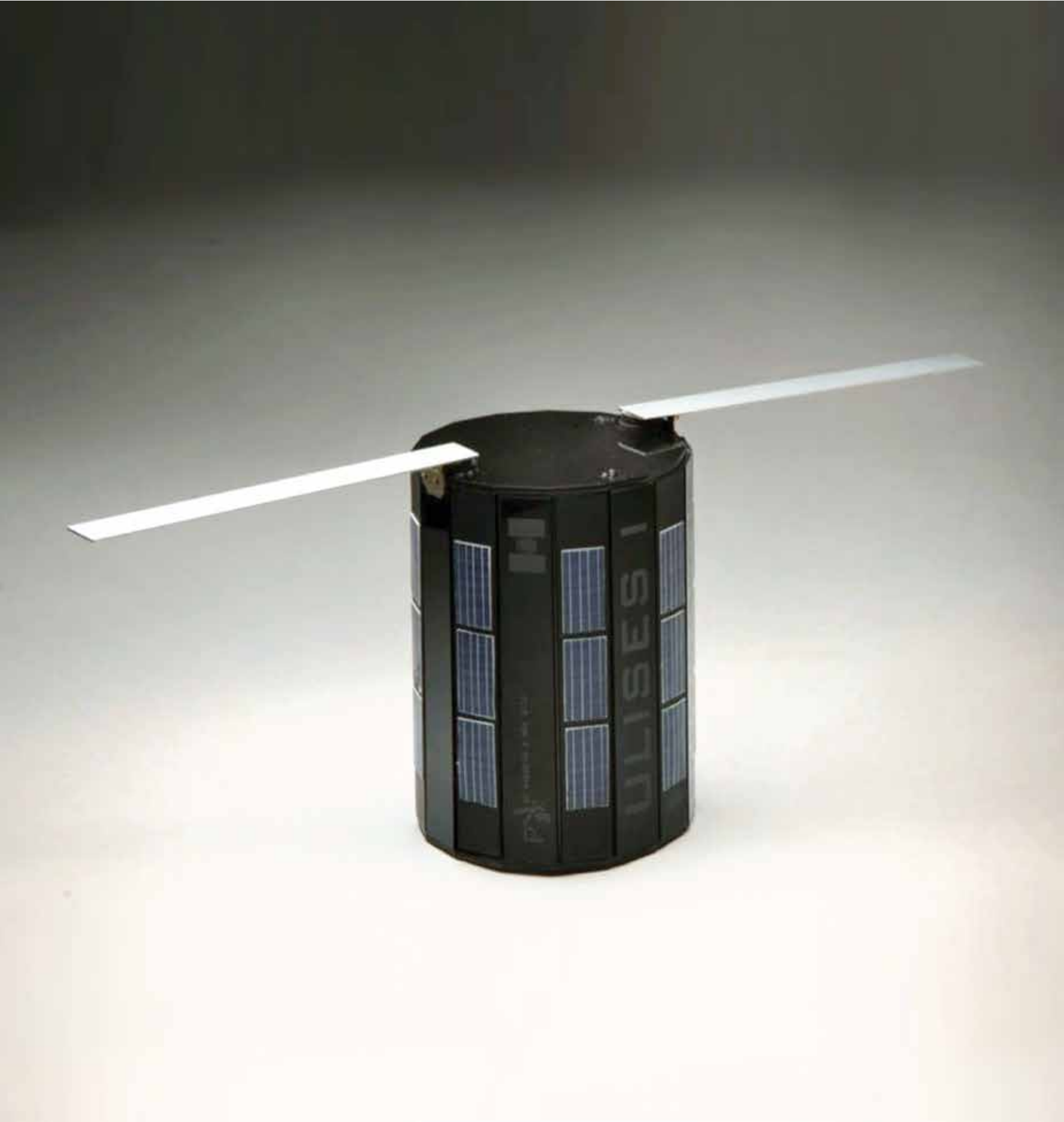
MEXICAN SPACE COLLECTIVE

[Mexico]

Ulises I, 2010–2012
mixed media
at the Anderson-Abruzzo International
Albuquerque Balloon Museum

Juan José Díaz Infante and the Mexican Space Collective built a satellite called *Ulises I*. Inspired by and in response to Mexico's drug war, Infante wanted to make his own reality and illustrate the idea that the future varies for different generations. The project involves launching the satellite into space, after which it will play an algorithmic opera, making the satellite a musical instrument.

Made possible in part by the Mexican Consulate, Fonoteca Nacional de Mexico, Laboratorio Arte Alameda, and Arts Catalyst.



MARK MALMBERG
[California, USA]

ALBIROO, 2012
multimedia
at The Albuquerque Museum of Art & History

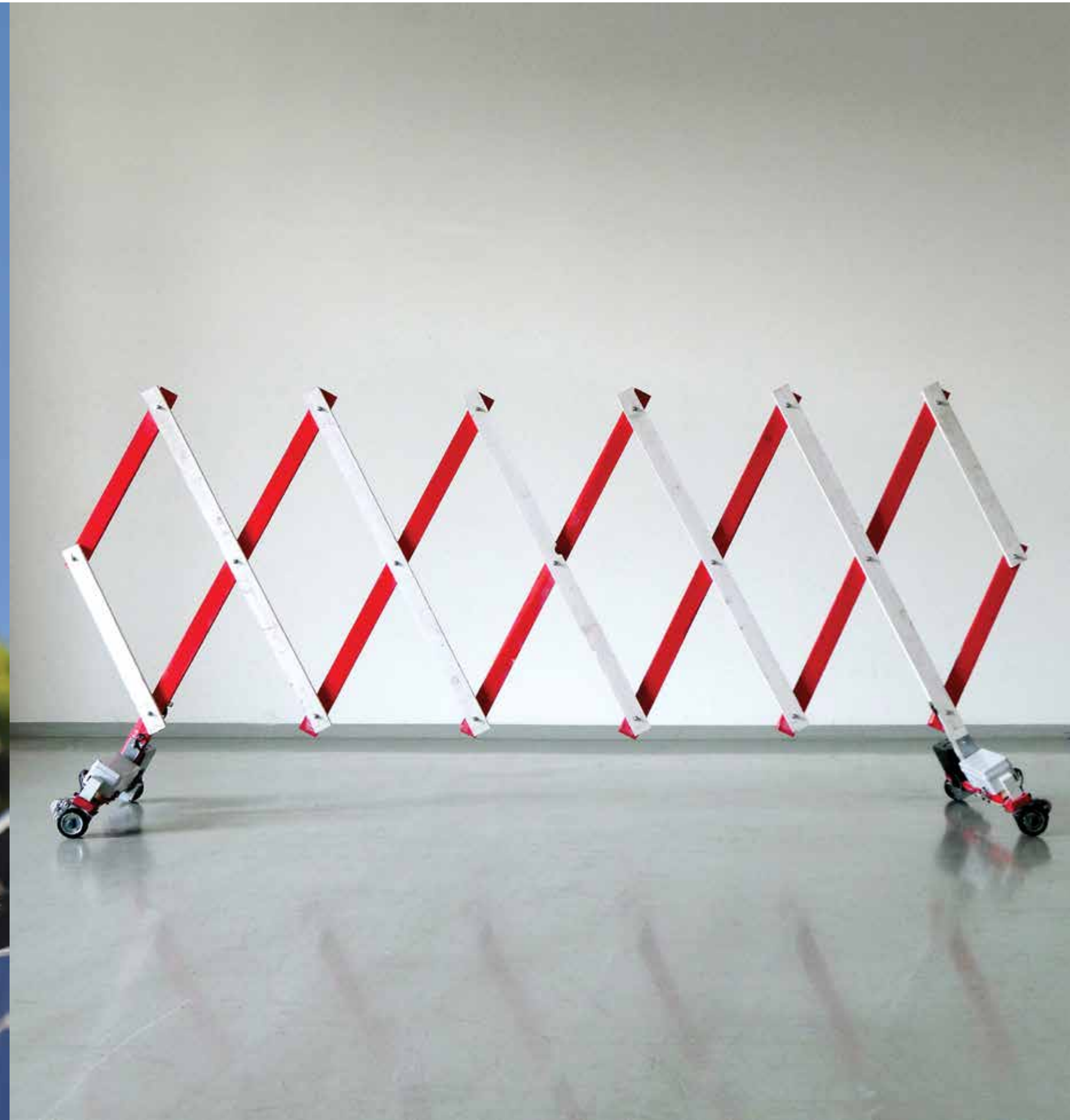
ALBIROO is a trio of robotic creatures that communicate with one another and interact in motion and sound. When the sun rises, they aim their panels toward the sky to charge. As the sun gets low in the sky, they run out of energy and put themselves to sleep for the night with some chirps, squeaks, and flickering LED lights.



ALEXANDER GLANDIEN
[Austria]

ZONE, 2011
mixed media
at The Albuquerque Museum of Art & History

ZONE is a self-sufficient and kinetic installation made out of an everyday, adaptable streetbarrier. The installation focuses on the process of demarcation, the definition of ban zones, and the exclusion linked with it. It also addresses the process of individual demarcations within public space.



KRISTA CABALLERO

[Maryland, USA]

All Appears Orange, 2011
mixed media
at 516 ARTS

All Appears Orange is a multimedia project that investigates disaster and warning systems. Through multiple performances and temporary sculptures, orange marking flags were used as the primary material to both signal and explore ideas around agency, safety, and environmental change. The installation includes hundreds of photos documenting these performances.



LYNN CAZABON
& NEAL MCDONALD
[Maryland, USA]

Junkspace, 2012
site-specific video installation and iOS App
at 516 ARTS

Junkspace is a time- and location-sensitive video installation and corresponding iOS App that highlights two forms of waste. Earthbound (electronic waste) are the remnants of the many devices that fill our lives, transformed from objects of desire to trash through a self-perpetuating cycle of obsolescence. Celestial (orbital debris) consists of the millions of pieces of junk currently circling the Earth, left behind by decades of satellite and space missions.

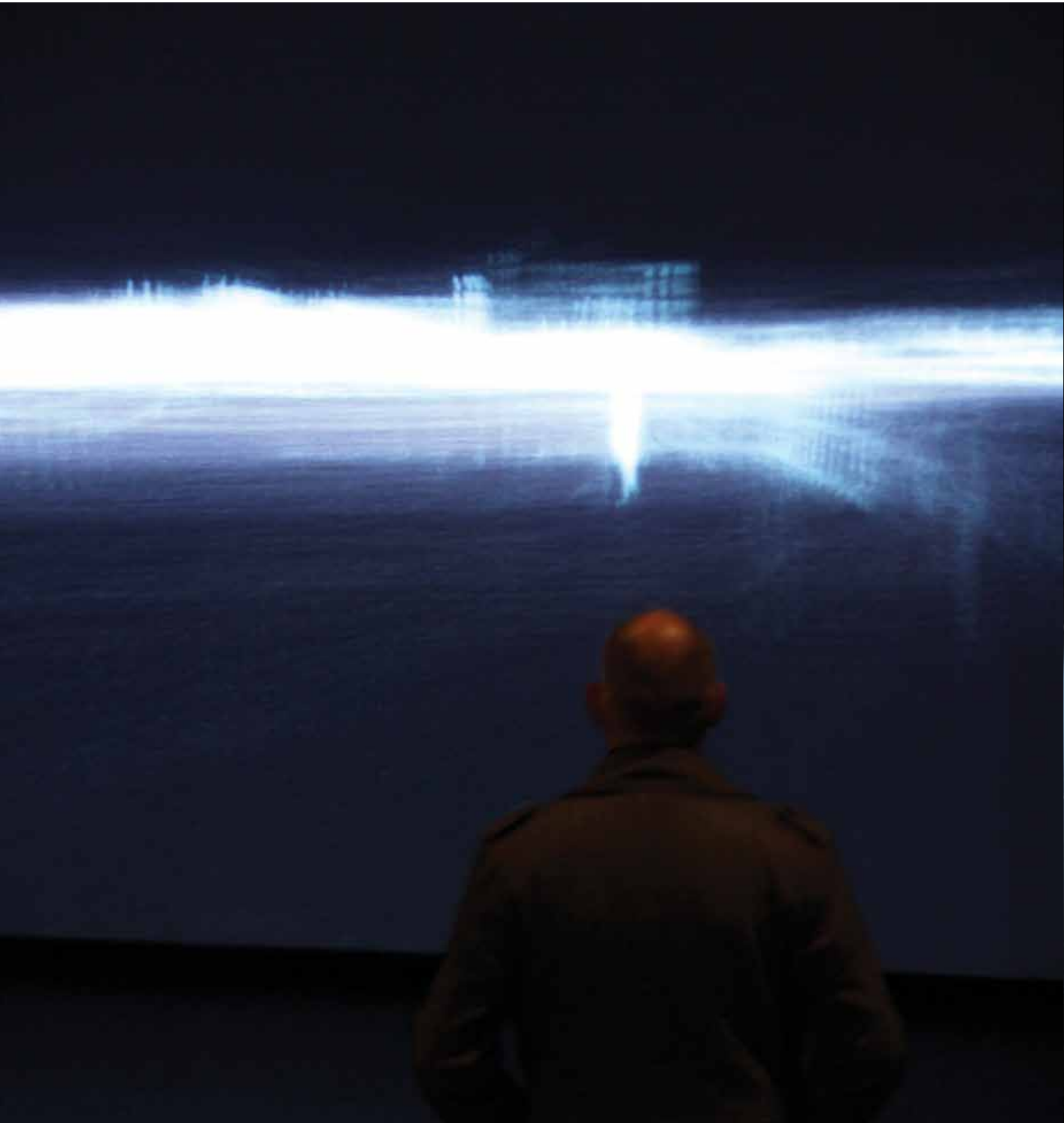


FRANÇOIS QUÉVILLON

[Canada]

Derivé, 2010 – ongoing
networked interactive installation
at The Albuquerque Museum of Art & History

Derivé ("drift" in English) is a networked interactive installation exploring 3D models of natural and urban spaces transformed according to environmental data collected in real-time on the Internet. By connecting the actual and the virtual, *Derivé* inquires into the phenomenology of mixed realities and probes into the changing nature of our perception and representation of the world.

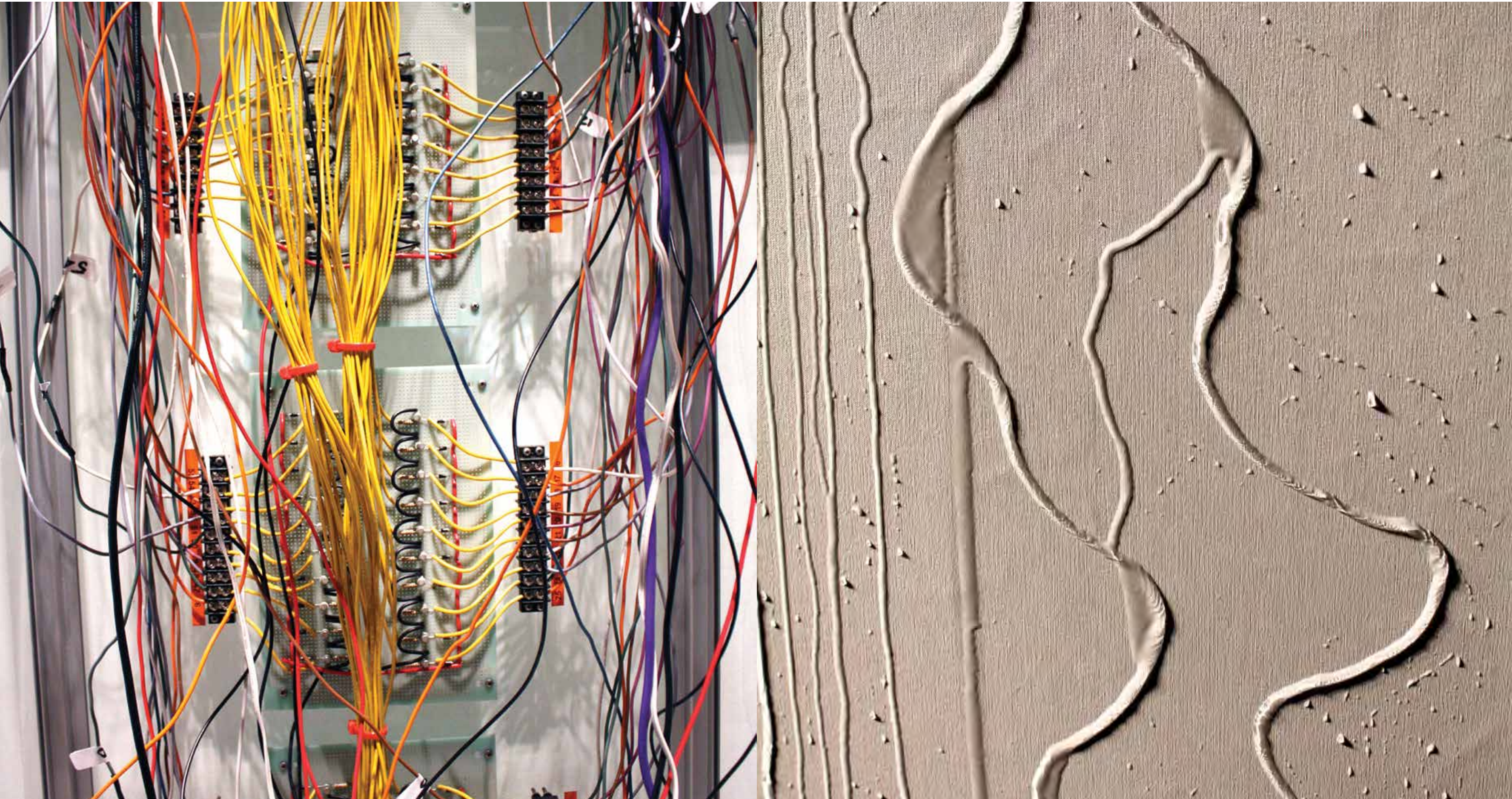


COLLEEN LUDWIG

[Wisconsin, USA]

Elemental Bodies: Shiver, 2011
water, plumbing, electronics, programming,
aluminum framework, fabric, hardware
at The Albuquerque Museum of Art & History

Elemental Bodies: Shiver is an immersive, interactive environment, integrating programming, electronics, and a recycling water system into a prefabricated architectural framework with specialized fabric walls. They create a room filled with cascading water flows, which develop organic patterns and move symbiotically along the wall to engage the surface, activate the senses, and bring the body into direct relationship with its environment.



ALICIA EGGERT
& MIKE FLEMING

[Maine, USA]

Eternity, 2011

electric clocks, acrylic, power strips
at The Albuquerque Museum of Art & History

Eternity consists of 30 electric clocks rear-mounted to a large sheet of white acrylic. The black hour and minute hands of the clocks are aligned to spell the word "eternity." The hands move when the last power strip is flipped, and the word becomes a jumble of moving black lines, returning to their original positions every twelve hours for a split second.



FRED PAULINO
& LUCAS MAFRA
[Brazil]

Gambiocyte, 2010
industrial rubbish, electronics, LED displays,
lamps, modified toys, sound generators
at 516 ARTS

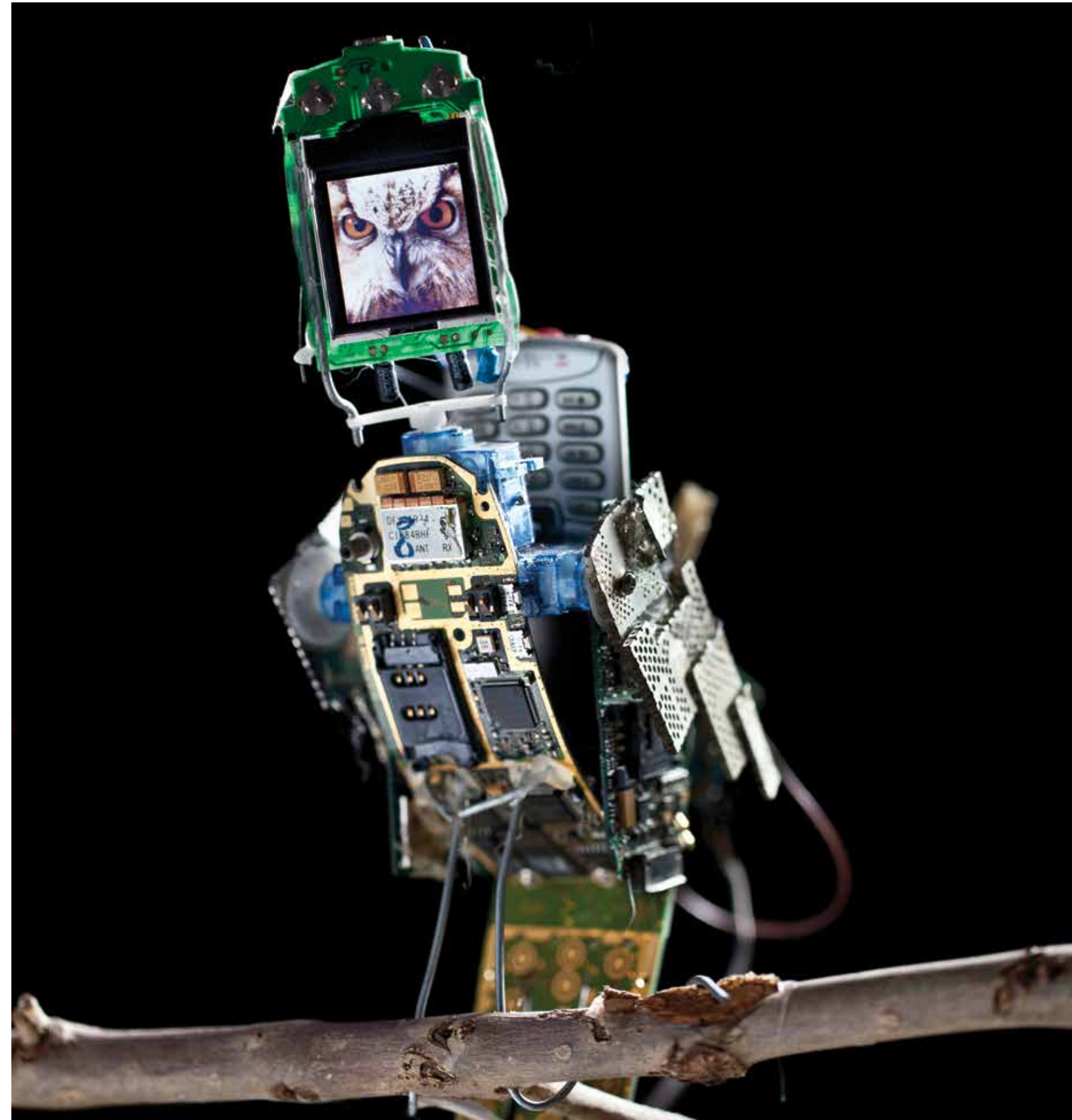
Gambiocyte is a tricycle containing electronic gear for interactive video projection and digital graffiti in public space, serving as a mobile broadcast unit. Inspired by salesmen who ride on wheels through Brazilian cities, *Gambiocyte* gathers elements of performance, electronic art, graffiti, and “gambiarra” (makeshift, kludge) to advertise democratic dialogue.



NEIL MENDOZA
& ANTHONY GOH
[United Kingdom]

Escape, 2011
mobile phones, tree, Arduino
at 516 ARTS

This installation takes familiar, often stressful and annoying devices and creates an alternate reality that uses disposable, unwanted phones and unwanted noises and turns them into something beautiful. Each bird consists of a load of broken phone junk. The working phone communicates via serial to a device that then decides how the bird should move, when it should answer calls (from the public or other birds), and when it should make calls.



EVE-ANDRÉE LARAMÉE
& TOM JENNINGS

[New York & California, USA]

Invisible Landscape, 2012
video, digital prints, light-box sculptures
(transparencies, lenses, LED lights, steel, plastic)
at 516 ARTS

Invisible Landscape is a collaborative installation concerning the Cold War “atomic” legacy: uranium mining and radioactive waste from the nuclear power industry and its “parent machine,” the nuclear weapons complex. The installation includes video projections and sculptures, digital photography, and light-box and sound sculptures. It is a mash-up of works by Laramée and Jennings, and includes components from Jennings’ installation *Rocks and Code* and Laramée’s installations *Halfway to Invisible* and *Slouching Towards Yucca Mountain*.



IVAN PUIG
& ANDRÉS PADILLA DOMENE
[Mexico]

SEFT-1, 2006–2011
(sonda de exploración ferroviaria tripulada/
manned railway exploration probe)
at The Albuquerque Museum of Art & History
and 516 ARTS

SEFT-1 is a vehicle equipped with a Hi-Rail system that enables it to move on rails. Mexico's trains once formed a network of connections between big cities and tiny pueblos throughout the country. This exploratory probe travels abandoned railways using photography, video, audio, and text to record contemporary people, landscape, and infrastructure in largely remote areas of the country, creating a futuristic exploration of Mexico's past.

Made possible in part by Stanlee & Gerald Rubin Center for the Visual Arts at The University of Texas at El Paso.



In a direct mirroring of the nineteenth century artistic fascination for technology and the rapid advancement of science, Ivan Puig and Andrés Padilla Domené located the exact spot depicted in artist and scientist José María Velasco's monumental romantic painting *The Metlac Bridge*. They drove the SEFT-1 vehicle over the railroad trestle abandoned in 1985, where, in 1881 Velasco had painted a train engine pulling ominously empty freight carriages into the remote, tropical valley in Veracruz.



JIM HOUK
KENT FRANKOVICH
& ADAM PETTLER
(California, USA)

Revolights, 2011
mixed media
at 516 ARTS

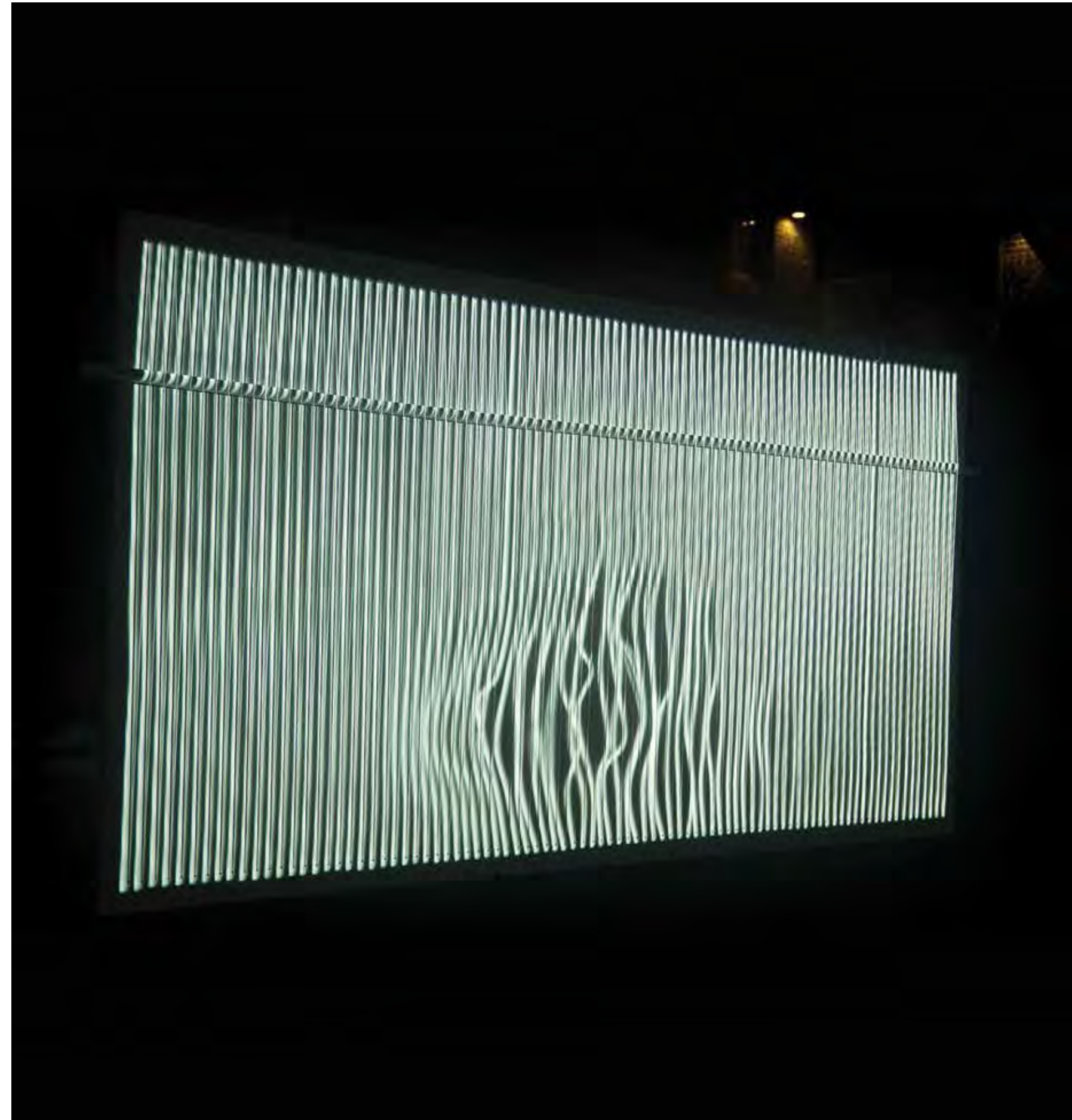
Revolights is a system that creates bicycle lights activated by human pedaling. It consists of two thin-profile LED rings that mount to bicycle wheel rims. When the bicycle is in motion, the LEDs illuminate the front edge of the front and rear tires, lighting the pathway before the cyclist. When the bicycle is stopped, the LEDs blink around the front and rear tire rims, making the cyclist easily visible to motorists.



CRISTOBAL MENDOZA
& ANNICA CUPPETELLI
[Michigan, USA]

Nervous Structure (field), 2012
interactive installation
at 516 ARTS

Nervous Structure is a site-specific, interactive installation consisting of a string and fabric structure illuminated with interactive computer graphics that react to the presence and motion of viewers. The piece consists of three planes that intersect: the physical plane (the structure), the virtual plane (the projection), and the perceptual plane (the viewer and his/her interaction).



PAULA CASTILLO

[New Mexico, USA]

Tunnel, 2011–2012
reworked, used corral panels
at The Albuquerque Museum of Art & History

This structure communicates a contemporary vision of the American West: the idea of no infinity yet no separation, which is the opposite idea of the original “West.” A fence is an artificial structure built to restrict and control movement, preventing us from engaging in transformation, whereas a tunnel speaks of a pathway.

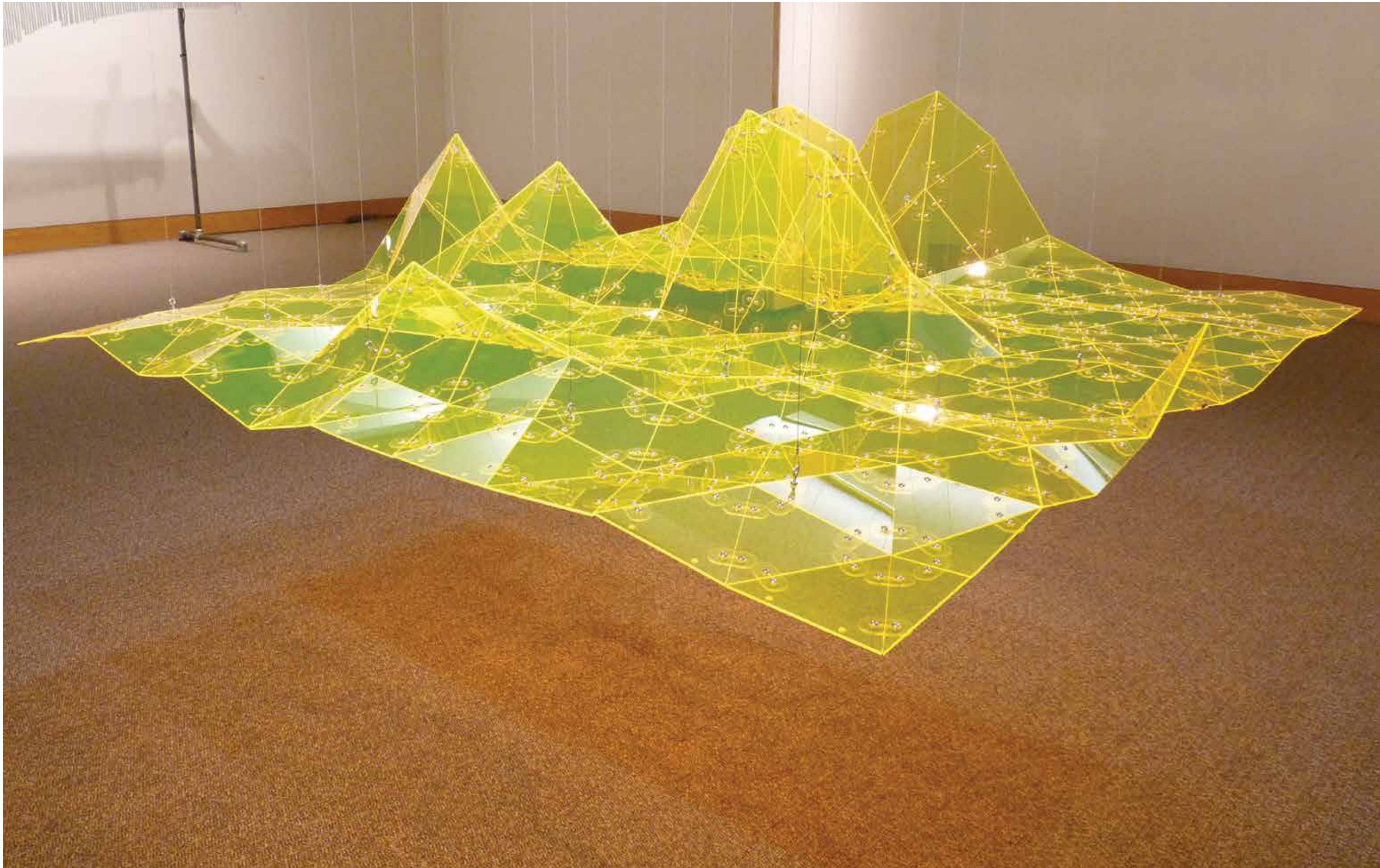


STEPHEN CARTWRIGHT

[Illinois, USA]

Mesh 1 (Cycling 1997–2009), 2010
acrylic
at The Albuquerque Museum of Art & History

Mesh 1 is based on Cartwright's running and cycling mileage over several years. Seams running parallel to the edges of the pieces plot average mileage over the course of a year, illustrating seasonal and year-to-year variation in activity.

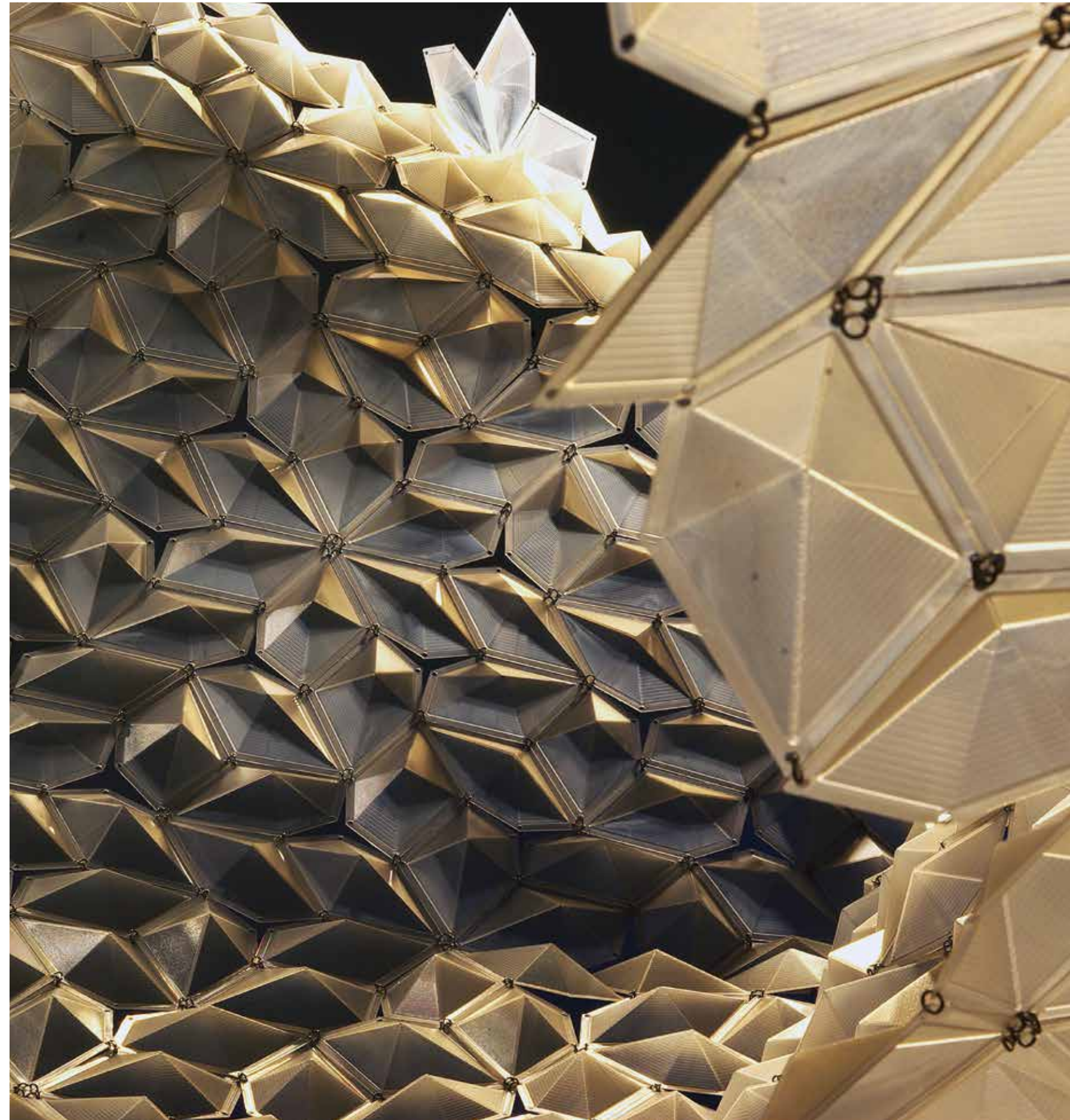


YULIA PINKUSEVICH

[California, USA]

Polyscape, 2012
recycled polypropylene, aluminum rings,
DC motor, monofilament
at 516 ARTS

Polyscape is a “floating island” made of recycled polypropylene plastic, the material used to make disposable bags and drinking bottles. The suspended, kinetic piece mimics the motion of water and undulates when it detects human motion. It comments on the Great Pacific Garbage Patch, aka the Pacific Trash Vortex, a floating island of ocean debris made of plastic, estimated to be 100 million tons and twice the size of Texas.



BRUCE SHAPIRO

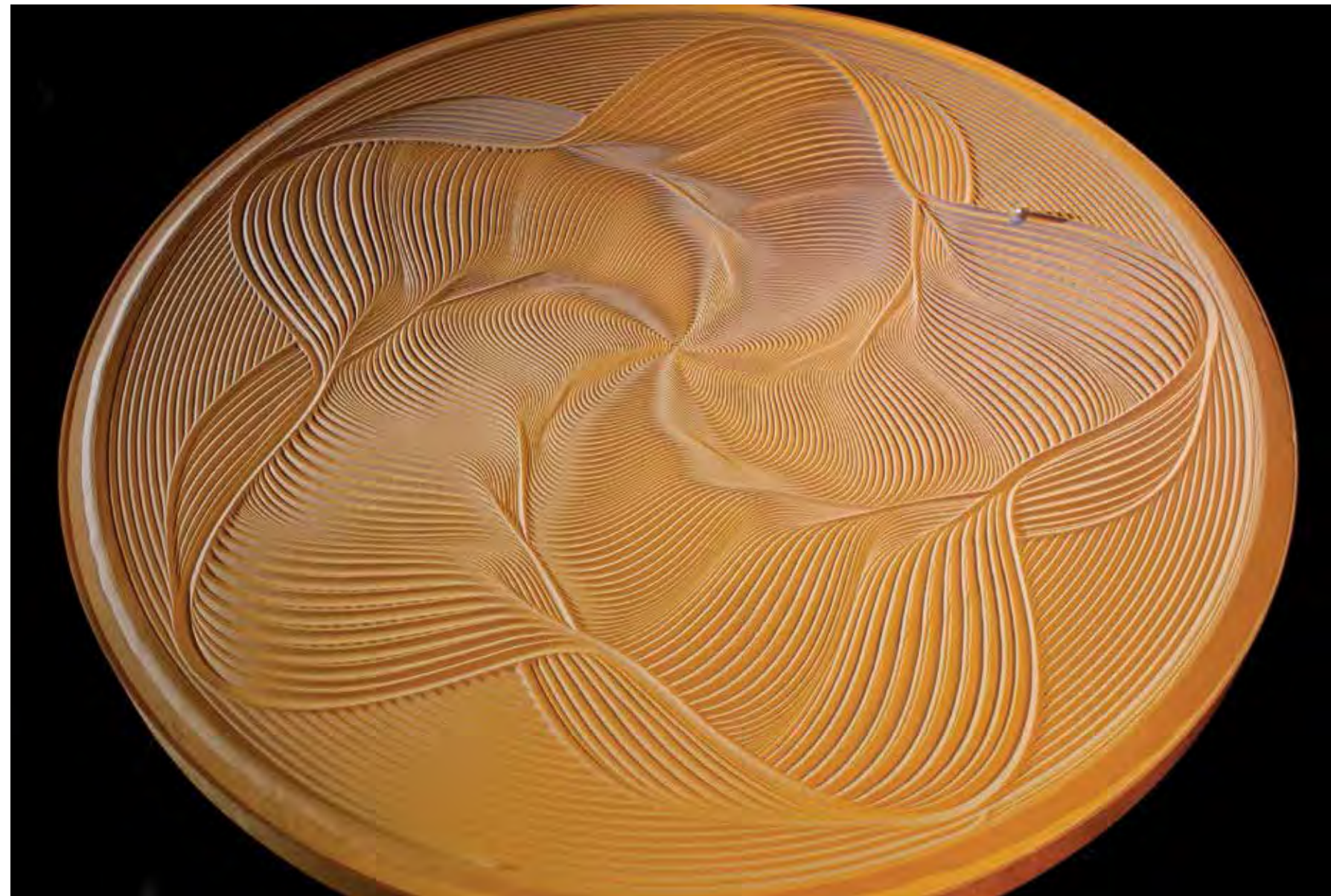
[Minnesota, USA]

Sisyphus VI, 2012

multimedia

at New Mexico Museum of Natural History & Science

Sisyphus is a series of kinetic sculptures that control the path of a large ball bearing as it rolls through a field of sand, leaving dunes in its wake. It is made possible by DIY CNC technology. *Sisyphus VI* melds current developments of a lightweight mechanism and furniture and the ability to control the mechanism via WiFi.



JOEL HOBBIE

[New Mexico, USA]

Untitled, 2011
welded steel, aluminum, stainless steel, Nekoboard,
camera sensor, tri-colored LEDs, DC motors
at The Albuquerque Museum of Art & History

This interactive installation uses a microcontroller, called the Nekoboard, and an onboard camera to capture three frames per second of movement in its field of view. It translates the viewer's movement into a shift through the color spectrum in the LEDs as well as motor speeds inside the sculpture.

**FILIPA DE LIMA VALENTE**

[California, USA]

Liminoid Bloom*s, 2012
mixed media
at 516 ARTS

*Liminoid Bloom*s* is a system of synergetic and interactive relationships among the environment, users of the gallery space, and programmed performances. Artificial ecology mechanisms mediate the space between the gallery and the environment of Albuquerque. These plantlike machines allow users of the gallery to experience the registering of atmospheric conditions present while simultaneously being able to affect the pieces themselves.



PAUL WIERSBINSKI
& HANNA HILDEBRAND

[Germany]

SRSS, 2012
mixed media
at The Albuquerque Museum of Art & History

SRSS is a model in the tradition of the "Spatial City," combining ideas of art, architecture, and science to propose utopian houses and city models for extreme living conditions, such as metropolises and regions endangered by natural disasters. This model of a utopian city is built out of cheap local and recyclable materials in order to initiate unlimited creative work toward rethinking urban planning, elevated city layers, and social conventions of city spaces. *(Site-specific piece pictured here at the Venice Biennale, 2009.)*

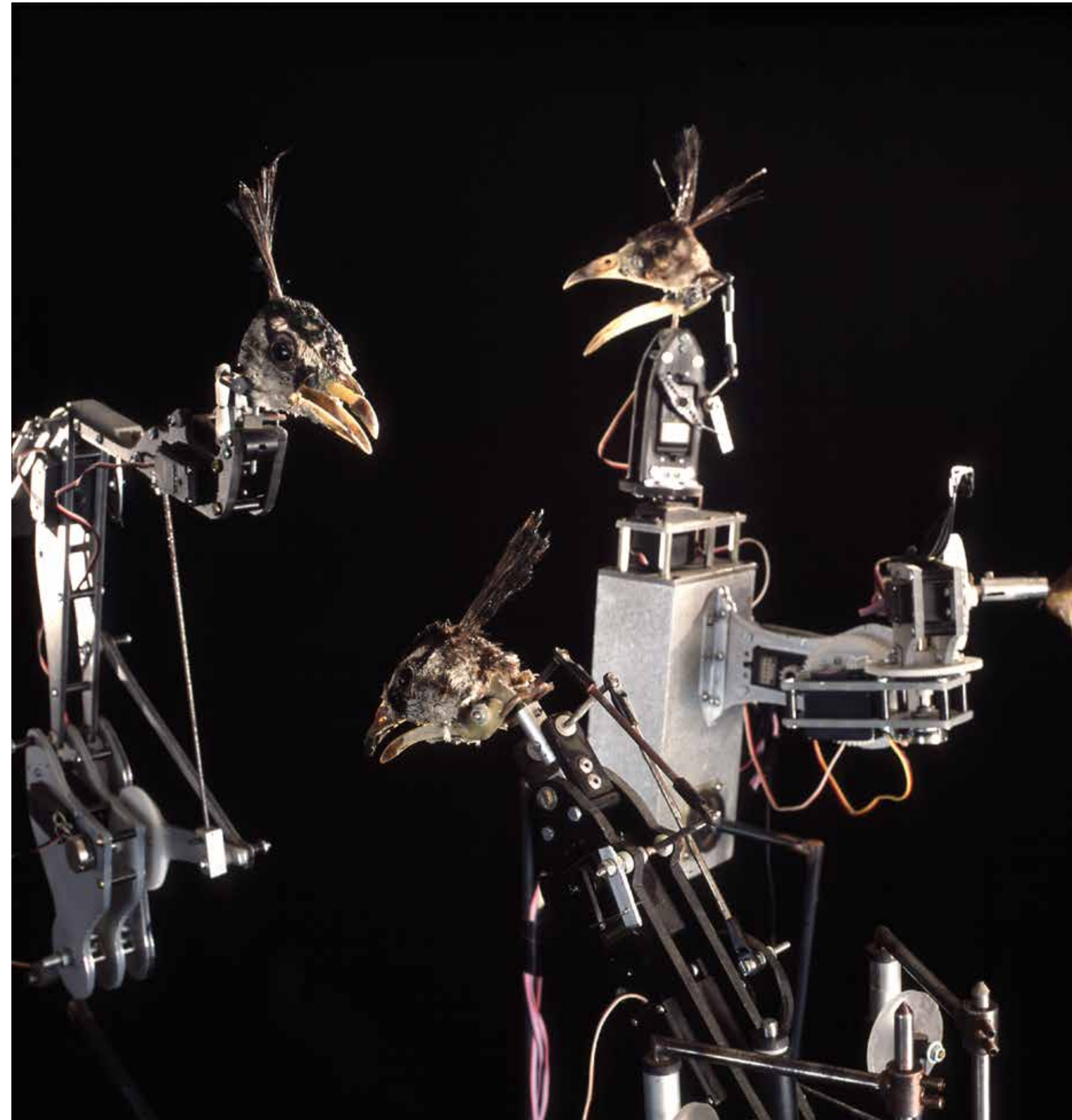


CHRISTAAN ZWANIKKEN

[The Netherlands]

The Good, The Bad and The Ugly, 2012
stuffed peacocks heads, feathers,
aluminium, steel, servo motors,
sound system, computer
at 516 ARTS

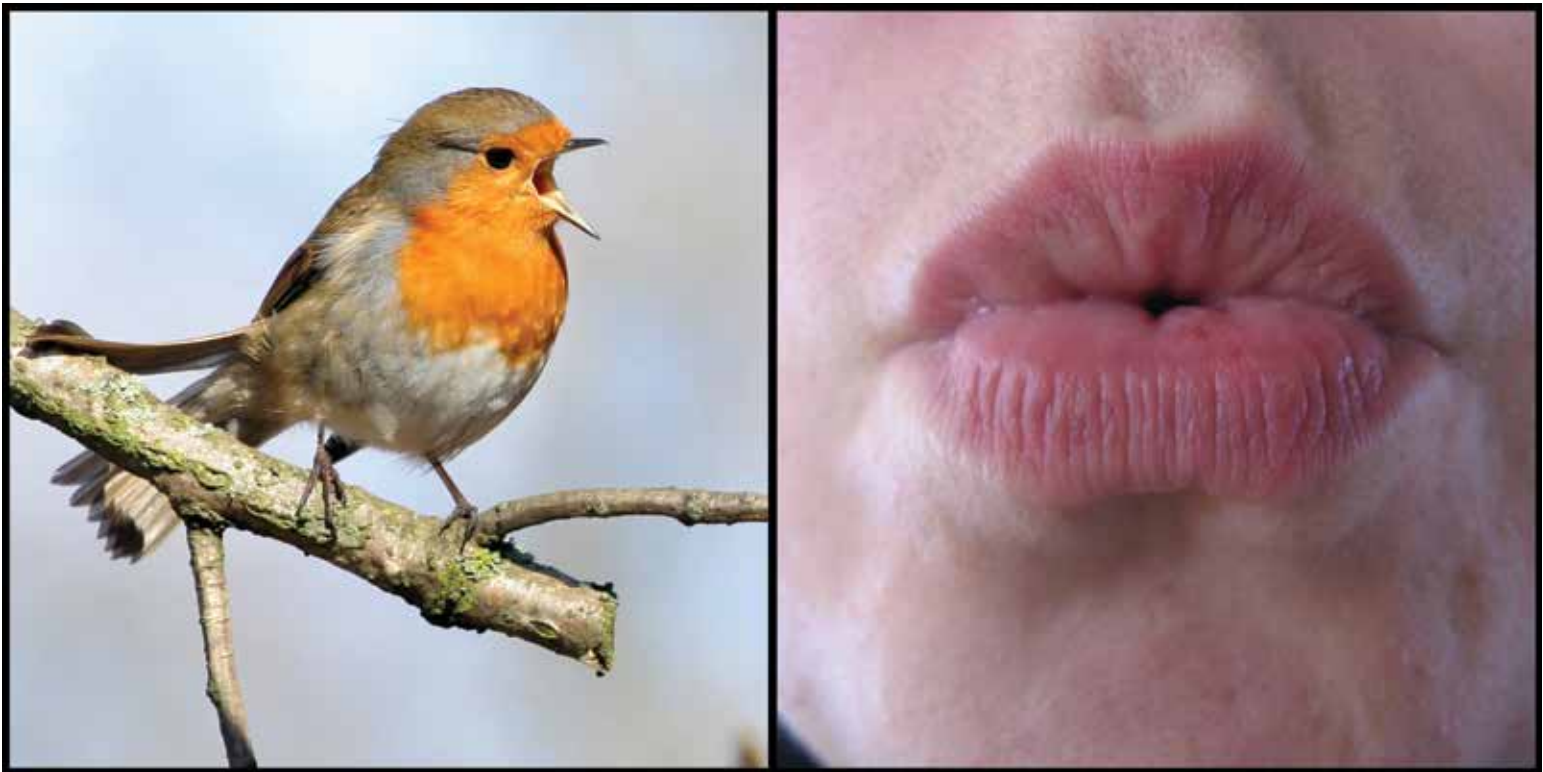
Do we make use of technology, or does technology make use of us? The wildness of nature has ironically made a place for the wildness of technology, which produces unexpected, unprecedented, and unpredictable fusions of body and machine. *The Good, the Bad and the Ugly* is a multicomponent installation in which remnants of birds and other animals have been brought back to life by means of microprocessors. Or is it the other way around? It seems as if the balance of emphatically visible technology and biological elements, such as skulls, bones, and feathers, could tip either way.



BENJAMIN JOHNSEN
[New Mexico, USA]

Bipolar (Bird-Human),
and Bipolar (Wild-City), 2012
digital print, wood, headphones, audio recordings
at The Albuquerque Museum of Art & History

Bipolar is a group of binaural sensory studies. Diptychs of static images, such as ocean and grassland or wilderness and city, are paired with split channel headphone audio. Visually the two remain distinct. Listening to the corresponding audio, the sounds blend together as the dissonance becomes harmonic.



STEPHEN HILYARD

[Wisconsin, USA]

Mountain 2 (left), 2011
Mountain 1 (right), 2011
archival inkjet prints, light boxes
at 516 ARTS

Mountain is a series of digital images of generic mountains generated from photographs of lava-cone formations in Iceland. The images have been manipulated to render the mountain forms perfectly symmetrical for part of their height. These are not images of particular mountains, but diagrams of the concept of “mountains” realized as iconic conical forms.



WILLIAM WILSON
WITH PAMELA BROWN
JOY FARLEY
DYLAN MCLAUGHLIN
& JAMIE SMITH
[New Mexico, USA]

eyeDazzler 1, 2012
76,050 4mm glass beads,
gel-spun polyethylene superline
at 516 ARTS

The *eyeDazzler* project combines traditional Navajo weaving and design with QR codes that lead viewers to the project's website. It is a transcustomary collaborative expression, which brings together innovation, traditional Diné design, 76,050 4mm glass beads, over 1,000 hours of artistic labor, and a portal to another dimension.



MATTHEW HEBERT

[California, USA]

Vehicle #1: Petri Table (for Valentino Braitenberg), 2008
wood, glass, electronics
at 516 ARTS

Vehicle #1: Petri Table (for Valentino Braitenberg) is comprised of a coffee table that houses small solar-powered machines, which twitch about when exposed to sunlight. The work is inspired by Valentino Braitenberg and his series of thought experiments outlining his theory of synthetic psychology.



D. BRYON DARBY

[Kansas, USA]

Seventy Flights in Ninety Minutes, 2009
archival pigment print on cotton rag
at 516 ARTS

Seventy Flights in Ninety Minutes was made from the top of Hayden Butte in Tempe, Arizona. For 90 minutes, the artist photographed every airplane that flew overhead and then digitally stitched together the photographs, re-creating the experience of living in a flight path by compressing an hour and a half into one apparently single moment.



SEOUNGHO CHO
[Korea]

Horizontal Intuition 14, 2012
6-channel video installation, 10:00, color, silent
at The Albuquerque Museum of Art & History

Horizontal Intuition 14 explores the expressive and emotive qualities of nature and the quotidian, as light, shadow, color, shape and line each reveal its own intrinsic “intuition” of its place in the world. Using close observation as a starting point, the images are pushed to the edge of abstraction. The moving white planes become a psychological space for the mind.

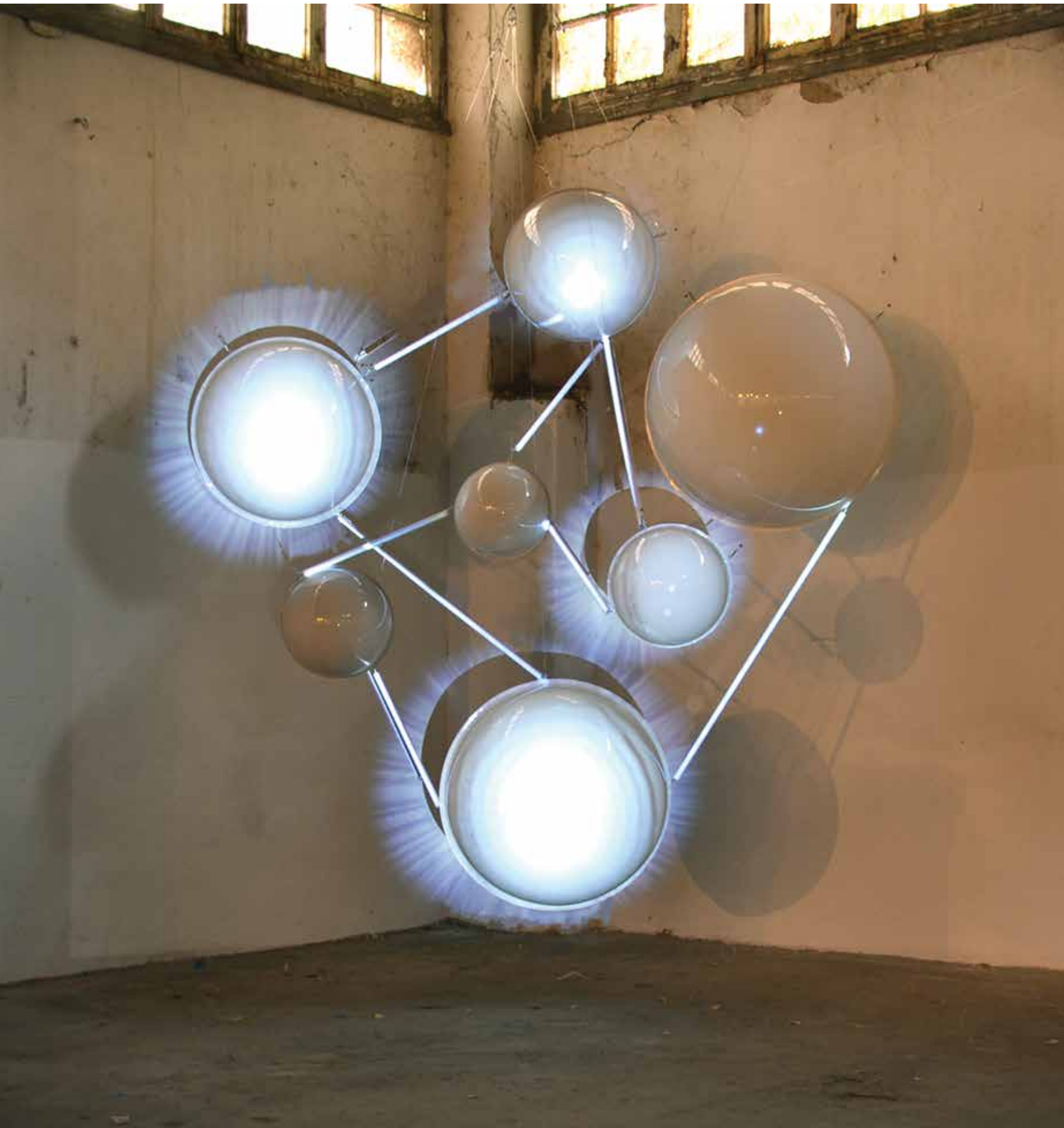
Made possible in part by Santa Fe University of Art & Design



ARTEREAZIONE+CONSONANT
DIRECTED BY MARIANO LEOTTA
[Italy]

SYN, 2011
multimedia
at Richard Levy Gallery

SYN is an interactive installation activated by Internet data exchange. This acrylic artificial nervous system uses video mapping technology and social networking to function as a postmodern social brain. With a simple tweet, a participant initiates an audiovisual performance by activating the sculpture with a mobile device, simulating the activity of a central nervous system.



ROBERT DRUMMOND
[New Mexico, USA]

District, 2012
digital media
at Richard Levy Gallery

District is a gallery touring, interactive, video-art installation concept designed to create an amalgam of public interaction and private digital experience. When viewers enter the installation space, a combination of motion trackers and cameras scan their figures to create abstract avatars, which then launch onto the large format video screens and interact with other previously generated characters inside of the installation's memory.



BRUNO VIANNA

[Brazil]

Ionic Satellite Fountain, 2012

salt water, acrylic, pumps, servo motors, controlling circuit boards, computer, radio receiver, headphones
at The Albuquerque Museum of Art & History

Ionic Satellite Fountain establishes a sensorial and spectral connection to the satellites passing over the installation. The jets created by nozzles are made of salt water and are controlled by a computer that predicts the passing of satellites, positioning them with the best direction and angle for reception. The jets are connected to a radio so visitors can hear signals emitted from the satellites with the streams serving as antennas. (Pictured here at Laboral Arts Center, Spain, 2011.)



TE HUNGA WAI TAPU:
DR. TE HUIRANGI WAIKEREPU
TE URUTAH I WAIKEREPU
IAN CLOTHIER
JO TITO
TE KAHU KIIWI HENARE
& CRAIG MACDONALD
[New Zealand]

Developmental study for the Wai project, 2012
digital image by Craig Macdonald
at 516 ARTS

The Wai (Maori for water, flow) project connects Maori cosmology, notions of integrated systems, and Western art and science in order to reinvigorate our understanding of flow and water across cultures and disciplines. It includes installation and video components, using technology to focus on the urgent need to engage with sustainable practices, given the environmental crisis. It covers the subjects of energy, ocean acidification, and Maori and Diné (Navajo) approaches to water. Text panels are quad-lingual and include Maori, Spanish, Navajo, and English.



JUD YALKUT
& NAM JUNE PAIK

[Korea]

Video Synthesizer and “TV Cello”
Collectibles, 1965–1971

23:25 minutes, color, silent video
at The Albuquerque Museum of Art & History

Nam June Paik was a pioneer of video art, using televisions themselves as a sculptural medium, and integrating video imagery into sculptural objects. Paik’s medium aroused controversy when his collaborator, cellist Charlotte Moorman, was arrested for public indecency while performing wearing only television sets. In this compilation video, Paik reimagined video footage with a video synthesizer to electronically manipulate images recorded during Moorman’s performances of *TV Cello*.



FERNANDO ORELLANA

[New York, USA]

Population, 2012

Play-Doh, aluminum, plastic, wood panel,
UV resistant epoxy, electronics,
12-channel video, LCD screens
at The Albuquerque Museum of Art & History

Population is an art and video installation that uses custom extruding machines to generate an imaginary population made of Play-Doh, with everything that a populace might need to sustain, distract, and destroy itself.

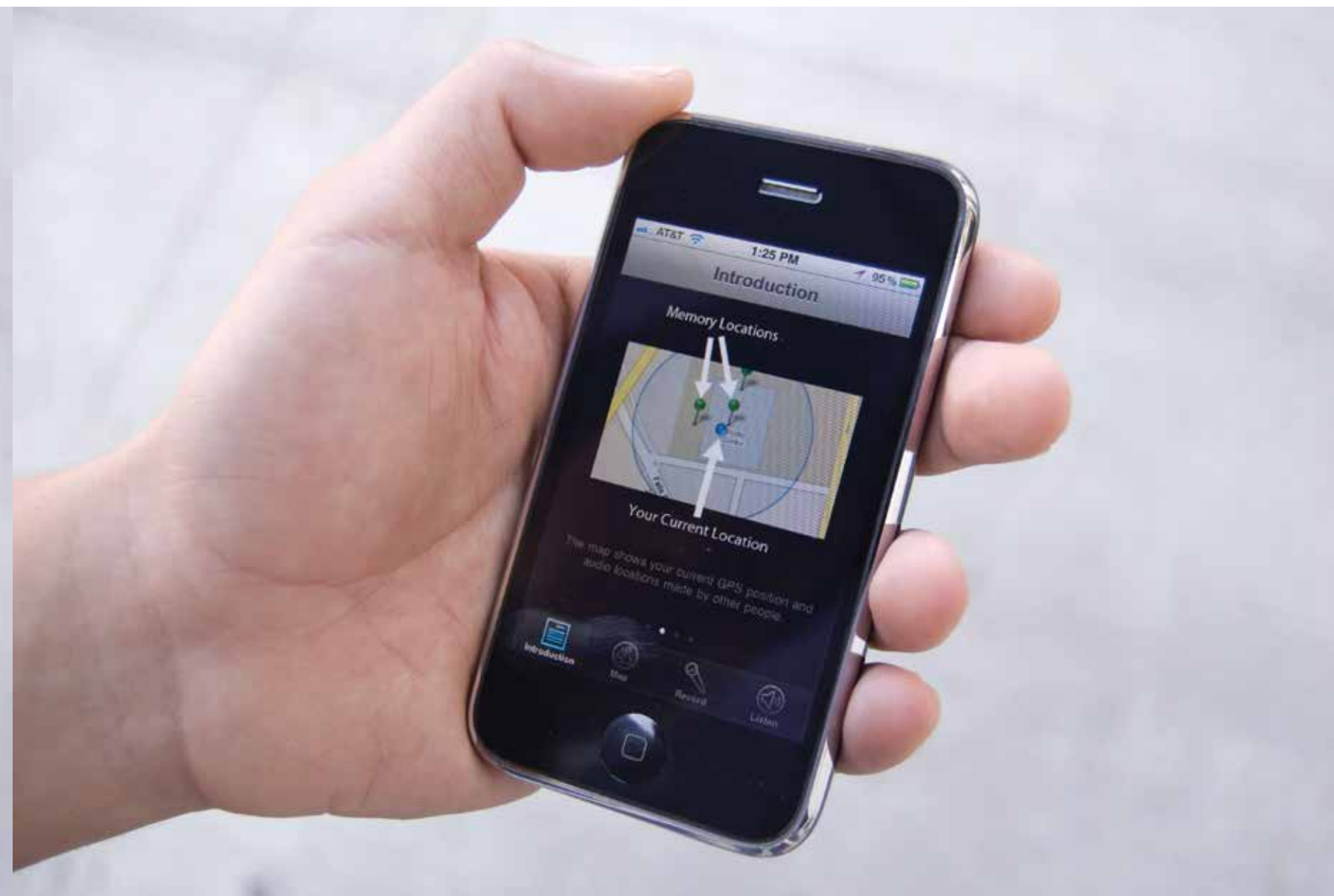


HECTOR LEIVA

[Virginia, USA]

The Matter of Memory, 2011–ongoing
custom Smartphone application
at The Albuquerque Museum of Art
& History and 516 ARTS

The Matter of Memory is a free, custom app using smartphone GPS tracking that allows anyone to submit a three-minute audio recording tethered to the location in which it is created. Others are able to listen to the recording when they are within 100 feet of origin point of that recording.



SCENOCOSME: GRÉGORY LASSERRE
& ANAÏS MET DEN ANCXT
[France]

Domestic Plant, 2012
plant, sensitive device, robotic wheels,
wood, audio system, computer
at 516 ARTS

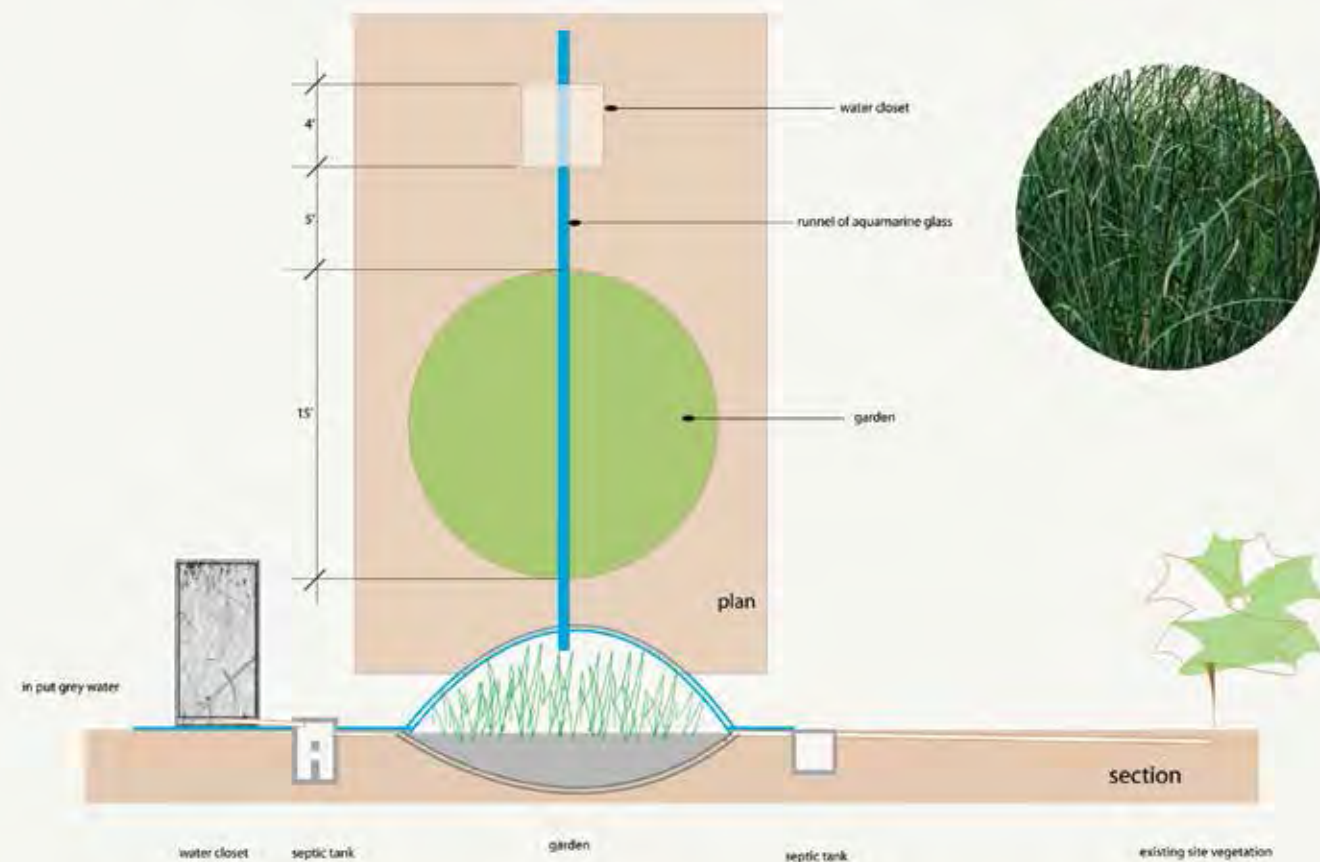
Domestic Plant is an augmented living plant that moves and reacts to human contact by sonorous expressions. It has the capacity to interact with its environment, to sense physical dimensions, and to feel touch by living beings. *Domestic Plant* is a kind of cyborg possessing a robotic system. It artificially reacts like a wild animal in captivity.



MERIDEL RUBENSTEIN
CATHERINE HARRIS
MARK NELSON & STACEY NEFF
[New Mexico, USA]

EDEN AGAIN: A Wastewater Art Garden, 2012
mixed media
at the Alvarado Urban Farm

EDEN AGAIN allows people to experience themselves as “living machines”—inseparable parts of the Machine Wilderness—using the waste from their bodies to create an Edenic, ecologically balanced space. The project is a public Water Closet sculpture sustaining reed species, mimicking Iraq marshland vegetation mulched with recycled glass. Subsurface, the plants’ roots filter the effluent.



NINA DUBOIS
[New Mexico, USA]

SOUND COLONY functions as an acoustic chamber, a human-scaled portal into the communicative modes that connect the world of the hive with the practice of beekeeping. It references the visionary architecture of R. Buckminster Fuller, whose research into energy and material efficiency was inspired by universally occurring patterns in nature.

SOUND COLONY, 2012
wooden shipping pallets, custom
steel brackets, electronic components
at the Alvarado Urban Farm



RACHEL MAYERI
[California, USA]

Primate Cinema: Baboons as Friends, 2012
2-channel video installation, 5:30 loop
at 516 ARTS

Baboons as Friends is a two-channel video installation juxtaposing field footage of baboons with a reenactment by human actors, shot in film noir style. A tale of lust, jealousy, sex, and violence transpires simultaneously in human and nonhuman worlds.



STEPHANIE ROTHENBERG
[New York, USA]

The Secret of Eternal Levitation, 2012
Google Earth, video, custom code, mixed-media kiosk
at 516 ARTS

The Secret of Eternal Levitation is an interactive installation and correlating augmented-reality, cell phone-enabled tour that explores the power dynamics and structural relationships between contemporary visions of utopian urbanization and real-world economic, political, and environmental factors. Drawing from existing interpretations of the “ideal” global city as projected by the fantastical constructions of cities such as Dubai or Beijing, the project creates a narrative around a fictional multinational developer.

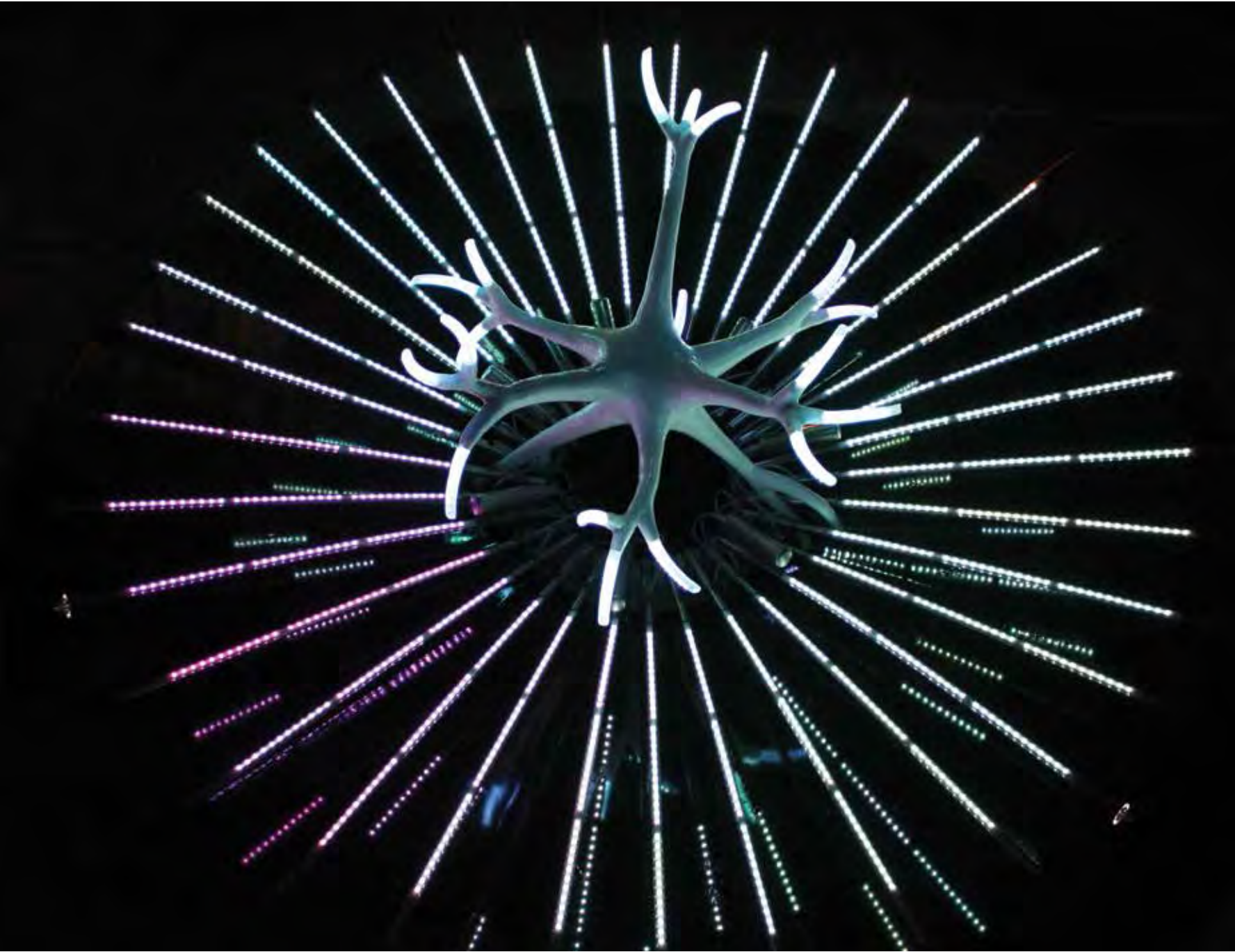
Made possible in part by the Harpo Foundation



TITIA EX
[Netherlands]

Flower from the Universe is a gigantic light flower with a heart modeled on a nerve cell, encircled by a garland of graceful stems. A circle of seven pods lies under the heart, where the seed of movement is hidden. By walking around the artwork, visitors set off a wave of moving colors. The nerve cell in the heart has illuminated offshoots that follow or are in contrast with the colors in the garland.

Flower from the Universe, 2012
interactive light installation
at The Albuquerque Museum of Art & History



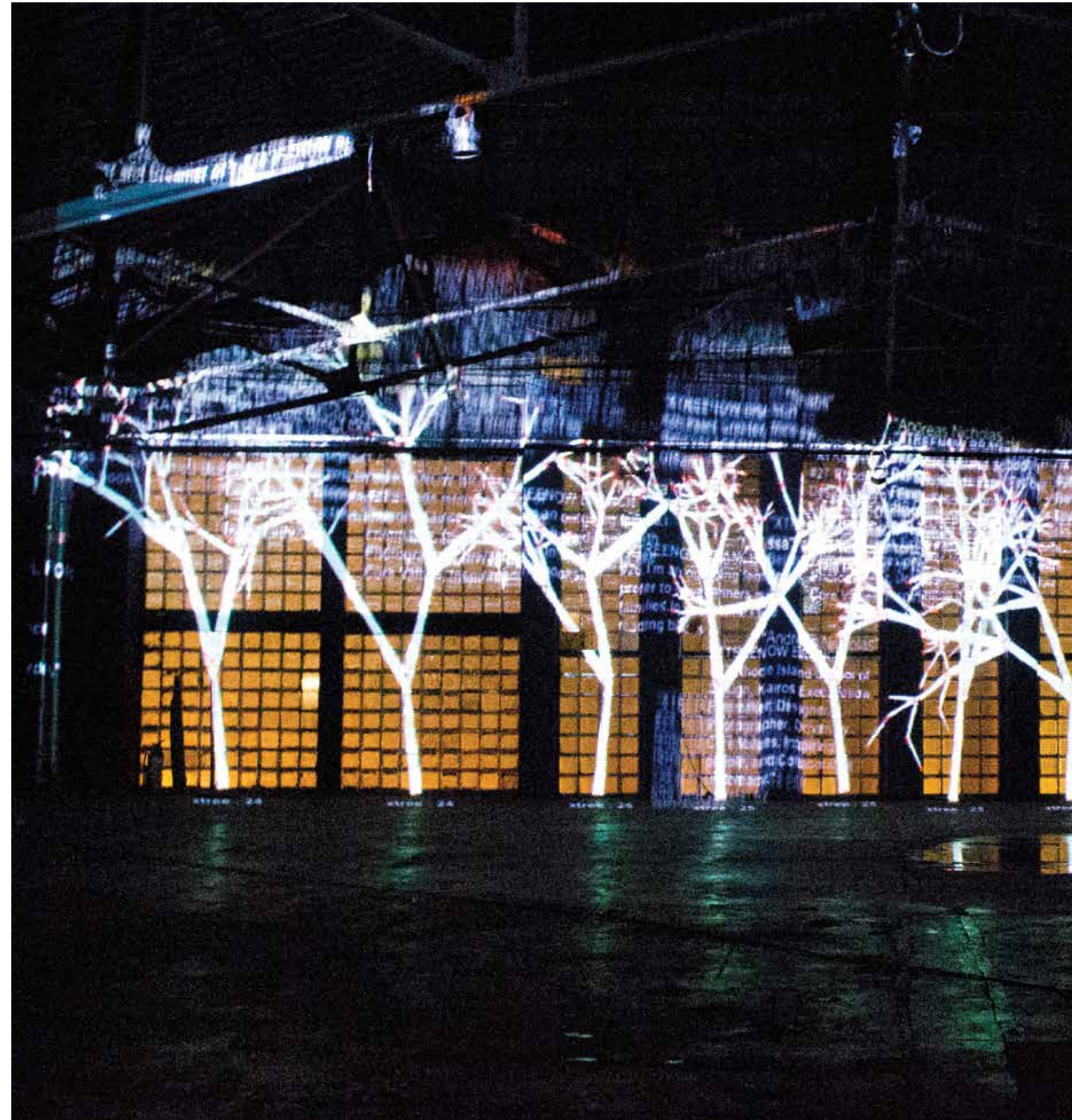
AGNES CHAVEZ
& ALESSANDRO SACCOIA

[New Mexico, USA & Italy]

(x)trees, 2012
multimedia interactive installation
at The Albuquerque Museum of Art & History

(x)trees is a socially interactive, virtual forest generated from search words found in tweets and text messages. It is a collaborative experiment in data visualization, video mapping, and participatory art. The artists have collaborated to create an indoor installation of the *(x)trees* with multilayered elements such as interactive branches, leaves, flowers, and sounds collected from nature.

(Pictured here growing live at IMPA Factory, Buenos Aires, Argentina; created with Jared Tarbell, Joe Roth & Jeff Milton, written in Actionscript; photo by Martin Trujillo)



ANTONY NEVIN

[New Zealand]

BELUGA, 2011–2012
latex balloons, LEDs, custom circuits,
processing software
at Anderson-Abruzzo Albuquerque
International Balloon Museum.

BELUGA invites participants to transform their experience of human interaction into visible light and movement. The Belugas are winged blimps floating in space, which, through the use of embedded sensors, are aware of their surroundings, people, and conversations. As people talk, the Belugas react, gently illuminate, and then flap toward the source of the conversation. As people gently touch the Belugas, they respond and change colors.



RUBÉN ORTIZ-TORRES

[San Diego, USA]

High n' Low Rider, 2008
 chromogenic urethane, metal flake,
 hydraulics, batteries, steel, aluminum,
 mechanical parts from scissor lift
 at The Albuquerque Museum of Art & History

Building upon the tradition of modifying production automobiles into rolling, dancing sculpture with sound systems, Rubén Ortiz-Torres has modified a commercially produced scissor lift used to elevate workers, into a lowrider that also goes high. With a digitally designed front grill, chromed hydraulic system, customized sound track, and an upper basket that spins, tilts, and lifts off its base, the sculpture is a 32-foot-tall, automatic, adjustable, contemporary tribute to Constantin Brancusi's *Endless Column*, Egyptian obelisks, and memorial columns through the ages.



: ESSAYS

: GRIDLOCKED

ERIN ELDER, NINA ELDER & NANCY ZASTUDIL

: ECONOTOPIAS

STEPHANIE ROTHENBERG

: RADICAL COSMOLOGIES

LEA REKOW & TOM LEESER

: TRANS-SPECIES HABITATS

CATHERINE HARRIS

: DYNAMOBILITIES

ANDREA POLLI

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ANDRÉS BURBANO

: EDUCATION PROGRAM

AGNES CHAVEZ & ANITA MCKEOWN

: GETTING OFF THE PLANET

PATRICIA WATTS & JENÉE MISRAJE

: GRIDLOCKED

ERIN ELDER
NINA ELDER
& NANCY ZASTUDIL
ISEA2012 Theme Leaders
Co-founders, PLAND

FLIP A SWITCH AND THE LIGHTS COME ON. Flush a toilet and waste disappears. Swipe a card and money is transferred. Sophisticated yet often invisible grids of power sustain contemporary life throughout the farthest reaches of our world, providing electricity, gas, water, sewage, finances, materials, transportation, communication and more. Rolling blackouts, economic fallout, climate change, and natural disasters test the viability of this interconnected system of dependence. Gridlocked aims to provide a multilayered exposé of the structures and infrastructures of power, and make visible their origins, mechanisms, consequences, and alternatives.

In 1879 Thomas Edison patented the light bulb. In the push to make this invention useful, a mass of new devices was created. In fact, a light bulb is worthless without the supportive interaction of complimentary switches, sockets, cords, wirings, cables, generators, and more. Electricity became the basis for our contemporary grid. Powering sensors, alarms, bells, monitors, switches, pumps, and valves, electricity is essential to the workings of a vast and varied grid that includes water systems, gas lines, railroads, traffic signals, telephone exchanges, sewer systems, even the stock market.

The demand for power surged in the 1920s, and to keep up with it, private and federal companies built massive infrastructure, generating power in various ways. The early pioneers of power quickly understood that greater efficiency was possible through integration. Dams, mines, refineries, and plants began pumping power into an increasingly sprawling and linked network of disbursement. In a race to produce and deliver abundant and reliable power, consolidated utilities achieved economies of scale. The natural environment was carved, excavated, pumped, sourced, sucked, harnessed, and manipulated into a mega-machine operated by a few private companies. By standardizing, consolidating, and regulating, a massive networked system of power was possible and gave way to what, in 1910, Congress recognized as “natural monopolies.”¹

The grid may be the greatest innovation of the postindustrial world. Given its institutionally structured nature, heavy capital investments, supportive legislature, commitment to know-how and expertise, as well as its widespread cultural dependence, the grid is the largest of all socio-technical systems. And yet it is the grid that striates privilege; it elevates some populations, while leaving others, literally, in the dark. The grid is ubiquitous, sophisticated, omnipresent, a sort of contemporary god. Looking at power and how it works illuminates blurred boundaries between human need, luxury, commodity, and hierarchy. Power is a paradox on both a technological and cultural level with deep implications for the environment, economy, and the future.

The American Southwest is a machine wilderness. Despite, or perhaps because of its low population density and vast, open landscapes, the Southwest is home to some of the most sophisticated and powerful industries. Not only the “Land of Enchantment,” New Mexico is also the land of extraction, explosion, experimentation, entropy, and is essential to the nation's power grid. A closer look at New Mexico’s relationship to power provides entry into the grid and its hold on the larger world.

How many of us question the workings of the grid, upon which we are so dependent? What is power? How is it made? Where does it come from and how is it used? What is the value of power? Is there power in powerlessness? What are the natural consequences or eminent failures of a mega-power system? What are Do-It-Yourself solutions to creating your own power? Is there life after power?

The Gridlocked subtheme for ISEA2012 features workshops, presentations, projects and field trips that explore power in its simplest manifestations as well as its complex hold on global society. Gridlocked is organized for ISEA2012 by PLAND: Practice Liberating Art through Necessary Dislocation. PLAND is a multidisciplinary organization that supports the development of experimental and research-based projects through a variety of on and off-site programs. Headquartered off the grid in Tres Piedras, New Mexico, PLAND is a hands-on, exploratory approach to Do-It-Yourself, alternative living.

NOTES

1. Nye, David E. *When the Lights Went Out: A History of Blackouts in America*. Cambridge: The MIT Press, 2010.

: ECONOTOPIAS

STEPHANIE ROTHENBERG

ISEA2012 Theme Leader
Associate Professor,
Department of Visual Studies, SUNY Buffalo

HOW DO WE CREATE VALUE TODAY? How do new technologies lead us to re-envision the worth of what we do? How do alternative platforms change how we engage in cultural production, distribution, education, and collaboration? The Econotopias theme at ISEA2012 explores divergent understandings of the “creative economies” as drivers of possibility across diverse communities, environments and technologies. Through panels, workshops, performances, and exhibitions, Econotopias brings together local and international artists, entrepreneurs, engineers, economists, city officials, and community organizers to question how creative economies face the challenges and demands of the global marketplace to impact everyday life.

The “creative economy” is an evolving concept, capturing the effects of intellectual capital as it interfaces with the arts, culture, business, and technology. In recent years the creative and knowledge industries have had unprecedented impact on the global economy. As a result, creative economies traverse the local and the global, and both physical and virtual geographies.

When we imagine an “Econotopia”—a neologism of economics and utopia—we are setting our sights on an idealized landscape where pollution-free rivers are flowing with the free exchange of knowledge, class is a subject you take at school, and scarcity doesn’t exist. Under the best scenarios, creative economies can lead to innovative and sustainable solutions that can shift the way the world works.

Many of the diverse projects and presentations in Econotopias encapsulate these lofty aims as they explore the far-reaching impact of the creative economy: peer-to-peer distributed networks that enable broader public participation with less stress to the environment; cooperative-based models and methods of barter and gift economies that inform online projects and transform localized brick-and-mortar businesses; government databases that make scientific and demographic data accessible worldwide; public seed banks that preserve traditional knowledge and protect biodiversity; “open schools” that cultivate affordable, project-based education; alternative funding forms such as “crowdfunding” and microcredit that leverage distributed networks for resource sharing in underrepresented communities; and virtual currencies that entirely rethink the concept of money.

While the Econotopias projects attempt to promote a more inclusive and sustainable society through creative economies, they do not ignore the challenges of this undertaking. Increased privatization of online and offline space plays a significant role in determining who can afford to be successful. Outsourcing has put strains on labor, demanding a

“flexible” global employee who possesses superpower skill sets and must be available to work 24/7. And, in attempts to stimulate business, corporate lobbying for deregulation is harming the environment.

Despite these challenges, the participants represented in the Econotopias theme are taking a broad look at creative economies to understand the implications of this cultural shift and imagine possible futures. Creative economies have the potential to move us towards a redefinition of the contemporary public commons. Networks can be used for sharing, trust, collaboration and mutual aid, while still providing a sense of autonomy and individual agency. Econotopias reveals and fuels this new, utopian public consciousness.

: RADICAL COSMOLOGIES

LEA REKOW
& TOM LEESER

ISEA2012 Theme Leaders

Lea Rekow, Independent Curator

Tom Leeson, Program Director,
Art & Technology in the School of Art,
California Institute of the Arts

COSMOLOGY (from the Greek *kosmos*, “universe”; and *-logia*, “study”) is the study of the Universe in its totality, and by extension, humanity’s place in it. Physical cosmology shapes this understanding through analytical relationships to science, whereas the philosophical perspective of cosmology is dominated through the domains of intellectual understand- ing, intuition, religion, and spirituality as formative concepts.

Radical Cosmologies marks a considerable departure from traditional readings of cos- mologies to consider extreme shifts in thinking within cultural and scientific research, and in regard to philosophical and theoretical interpretations of existing worldviews and conditions. At this nexus, cultural producers working with critical, creative inquiries in various constellations of science, technology, and mythology, offer fresh insights into our world through a range of unorthodox actions, projects, and pedagogical initiatives that often take the form of artistic mapping.

Mapping and cartography through the centuries evolved as a practice that incorporates to this day the disciplines of design, art, engineering, mathematics, geography, and astronomy. The ancients, in spite of their technical limitations, created extensive maps that represented their trade routes, empires, and cities, along with their heavenly paradises. The indigenous Australians have been using paintings as “dream tracks” and songs, stories, and dance as “songlines” for millennia to generate a psycho-geographic cultural system that marks their cosmos, explains past histories, and defines paths for spiritual journeys.

Maps have historically been equally reliant on belief as well as materiality, and serve to delineate and frame the world into social, philosophical, and political narratives to extend our vision beyond the physical and into imaginary space.

Contemporary mapping practices now serve as interdisciplinary devices that allow artists to document and frame the invisible and track the unseen, allowing us to contextualize formal and conceptual strategies that serve as the source for much of today’s media- based art. Mapping no longer takes space and simply renders it two dimensionally (or three-dimensionally) for purposes of navigation or demarcation. Maps can now move beyond mere representations of our physical environment; they can function as catalysts for our ideas and social interactions.

Our current obsession with data mining and mapping relies on a compulsive recording and sharing of communication data (images, sound, text, etc.). In the process we have com- modified our data, and have become our own medium. Cultural dialogue formed out of such fragmented narratives are shared via a realtime system of codependent production and distribution within an architecture of transience. Two forms of communication emerge

from this: one comes from the dominant network as a whole, and the other comes from the multiple voices that travel through the system as undertones or “sotto voce.” These undertones form a subset of connections or a series of backchannels characterized by a position of resistance that echo within our global network. They leave traces of their travels as contemporary “songlines” which are remixed and rerouted to other levels and subsets of relational activity, performance, and activism. Ultimately by viewing the myriad of traces at any point within the process, we see a nested imprint that charts our collective cosmos. As such, these Radical Cosmologies can serve as a new metaphor in a global space of networked culture.

Mapping Radical Cosmologies
(Adapted from a conversation between Lea Rekow and Tom Leeson for viralnet.net)

: TRANS-SPECIES HABITATS

CATHERINE HARRIS

ISEA2012 Theme Leader
Assistant Professor of Art and Ecology,
The University of New Mexico

“The problem with the fragility illusion is that it encourages a misplaced purism, leaving no room for compromise or negotiation, and it leads to ‘fortress conservation’—the idea that the only way to protect ‘fragile’ ecosystems is to exclude all people. In Uganda, when a national park was established to protect biodiversity, 5,000 families were forced out of the area. After a change in government, those families returned in anger. To make sure they were never forced out again, they slaughtered all the local wildlife.”¹

“I want to explore here how public spaces take shape through the habitual actions of bodies, such that the contours of space could be described as habitual. I turn to the concept of habits to theorize not so much how bodies acquire their shape, but how spaces acquire the shape of the bodies that inhabit them. We could think about the ‘habit’ in the ‘inhabit.’” ²

“Habitat” has acquired a greenish brown tinge, purely a locale for flora and fauna. The word pairs with “diminishing,” “endangered,” and “frail” in news and in oft-unheeded liberal cries. Commonly, it signifies curvy lines and clusters. Habitat — the third-person singular present tense form of the Latin *habitare* — means “it inhabits.” Trans-species habitat proposes a habitat phenomenology — a theory of space no longer divided between us and them, urban and wilderness, nature and culture, human and other (*species*), rooted in whole experiences.³

Trans-species habitat includes human patterning, the pulse of Times Square, the brilliance of Christo and Jeanne-Claude’s *The Gates*. To improve species diversity, trans-species habitat offers the urban fabric to species other than Homo sapiens.⁴ It undoes recent centuries of construing nonurban surroundings as places to be conquered, resources to be reaped.

Trans-species habitat requires experimentation, projects such as Brandon Ballengée’s *Love Motel for insects*, spaces for insects and humans to interact; or Fritz Haeg’s *Animal Estates*, habitat built by humans for animals, to test the uncommon hypothesis that a space need not look “natural” to function as habitat. Science articulates how many, how much, which plants, but not aesthetic morphologies.⁵ In a vacuum of testing, aesthetically “natural” must be better for all species. Yet humans have been “natural” for 400 million years and DNA links us to the evolution of all vertebrates.⁶

As the squats of the 1970s and ‘80s launched an urban revitalization from London to Lower Manhattan, so species movement into the urban fabric enlivens spaces abandoned to sterility. Coyotes, bears, peregrine falcons, and many other charismatic mega-fauna are making cities their homes, not to mention all the uncharismatic mammals inhabiting human infrastructures and patterns. Habits change; mammals become more nocturnal, change their forage. Cohousing requires good roommate habits—no raucous parties, no unwanted guests, a low profile.

Humans value this biotic world as ecosystem services, quantifying the improved quality of air due to urban forests, improved plant diversity as goats mow invasive plants from the Berkeley Hills, the calming effects of green vistas on residents of project housing in Chicago. Humans not only appreciate biotic patterns, but copy adaptations and complex natural systems from Velcro to storm-water infiltration. Yet humans stop short of offering all beings equal footing. A corporate world adopts Adam’s charge to name (and tame or factory farm) the beasts.

Ahmed frames sexual orientation as beginning in phenomenological inquiry—where in space are we? How are we oriented? She locates the table as the analogic spatial descriptor—the table at which we work, philosophize, socialize. I propose habitat phenomenology as defined by the questions: With whom do we share our space? How are we oriented as creatures? Not by erasing human patterning, but by extending aesthetics and form trans-species habitat respects other biota’s forms and communications. Inquiry’s spatial locus is urban. “How” is experimental, creative systems, infrastructures and humility.

Trans-species Habitats borrows continuum, elision and boundary blurring from transgen- der studies. Spatially, trans-species live together—an integrated mix, not segregated. “We have hope because what is behind us is also what allows other ways of gathering in time and space, of making lines that do not reproduce what we follow, but instead create wrinkles in the Earth.”⁷ These wrinkles in the Earth redefine relationships to land, creating an imperative beyond lines, boundaries, property, and value. The wrinkles rupture human sovereignty for the benefit of all beings.

NOTES

1. Brand, Stewart. summary of a conversation with Peter Kareiva, “Conservation in the Real World” June 2011, <http://longnow.org/seminars/02011/jun/27/conservation-real-world/>

2. Ahmed, Sara. *Queer Phenomenology: Orientations, Objects, Others*, Duke University Press, 2006

3. It is deeply difficult and silencing to articulate a non-hierarchical relationship of humans and their surroundings. A subject forces an alienated binary, a human brain describing the relationship to the other. The fallacy of “I, the ego” bars the intelligences of other species from authoring the narrative, as awkwardly demonstrated by scientists referring to dolphins as “nonhuman persons.” Subjectivity belies Derrick Jensen’s passionate prelapsarian knowledge – hearing stars and animals speak. (Derrick Jensen, *A Language Older than Words*)

4. Since 2006, 50% of the worlds almost 7-billion-person human population live in urban areas. Density ranges from 1 person per .0139 square kilometers (Singapore) (<http://www.persquaremile.com/2011/01/18/if-the-worlds-population-lived-in-one-city/>) to Mongolia with 1.8 persons per 1 square kilometer (<http://www.mapsofworld.com/world-top-ten/world-top-ten-least-densely-populated-countries-map.html>).

5. Author’s personal experience with research on kangaroo rats.

6. Trans-species habitat proposes inquiry into “speciesism.” Coined by philosopher Peter Singer (anecdotally while in his bath) from the Linnaean differentiation of species, class, family still referring to the codification of the Great Chain of Being. The scientific knowledge and observation Linnaeus’ system engendered broke the chain’s insistence on hierarchy and order as the articulation of a world unknown. As the world became codified, rather than simplified, what Linnaeus, Darwin, and others through to E.O. Wilson and Stephen Jay Gould found was proliferation and evolutionary paths coinciding, diverging, creating a panoply of palimpsests. DNA research has untangled these palimpsests to discover 481 DNA pairs that all vertebrates share and have for 400 million years. (San Francisco Chronicle – SF Gate “Humans, animals share more DNA than previously thought: Santa Cruz study shows common ‘junk’ fragments,” Keay Davidson, Chronicle Science Writer, Saturday, May 8, 2004)

7. Ahmed 179.

: DYNAMOBILITIES

ANDREA POLLI
ISEA2012 Theme Leader
Mesa Del Sol Chair of Digital Media and
Associate Professor, Art & Art History
and School of Engineering,
The University of New Mexico

HOW DO WE EXPERIENCE SPACE in the American Southwest? Usually through the window of a fast-moving machine. Unlike the pedestrian-based cities of Europe, modern cities here grew in tandem with rail and highway systems, and this history has given us an accelerated perspective on the landscape. We have built our lives around these machines at speed. They have become our homes, dining rooms, offices, and identities. We spend money and time on comfort, style, and utility and dot the landscape with our custom cars, motorcycles, and pick-up trucks. Hot rodding, stock car and drag racing, demolition derbies, car shows, motorcycle clubs, and psychedelic vans all define our car culture and our artifacts are custom-fitted to this lifestyle, with popular films like *Easy Rider* and technological developments like mobile phones and GPS. The ISEA subtheme of Dynamobilities attempts to address the phenomena of mobile machines and their local and global manifestations, implications, and futures. Specifically, Dynamobilities has been created to investigate more sustainable solutions to mobility in both physical and virtual space.

The use of the prefix *dyna*, meaning “power,” was inspired by visionary architect and designer Buckminster Fuller’s Dymaxion car (short for Dynamic Maximum Tension). Fuller designed the Dymaxion car in response to the trend of post war decentralized, mass-produced housing. The car integrated high technologies of the day like jet propulsion and heat-treated aluminum alloys and was an enterprise that involved collaboration among the highest levels of art, science, technology and design. Although the car didn’t make it into mass production, its influence still resonates. The *Dynamobilities* theme channels the spirit of Fuller and the Dymaxion Car by celebrating experimentation on a high level, including experimentation that may fail. True experimentation must include the pursuit of impractical, fanciful ideas because playful, artistic experimentation helps to grow the seeds of inspiration and joy.

Joy and play is very evident in the Dynamobilities themed works for ISEA2012. Many of these celebrate the independent, DIY spirit and guerrilla-style action. For example, featured filmmaker and artist Harrod Blank is a leader in the art-car movement and contributes his latest film *Automorphosis* and his Camera Van, his commentary on media saturation. To personalize a vehicle like an art car can be seen as a reaction to mass production and uniformity. This drive is seen not only in the art cars of the United States, but in the jeepneys of the Philippines, the painted buses of Mexico and Panama, the ox carts of Costa Rica and Italy, the tap-tap of Haiti, the chivas of Colombia, the mammy wagons of Ghana, the lorries of Nigeria, and the decorated trucks of India and Pakistan. Although most of these vehicles are privately owned, they also function as a form of moving public art.

A prominent local example of public and social statements on the road is the Southwestern cultural icon and invention of Chicano culture, the lowrider. Lowriders are being celebrated during the ISEA2012 symposium with the performance artwork of composer Christopher Marianetti and dancer/choreographer Mary Margaret Moore, *Symphony 505*. Marianetti and Moore collaborated with local lowrider car clubs and used their boom boom sound systems to create a surround sound and visual, sonic, and kinetic experience.

Hacking, mashing, modding, and repurposing are the modes of production evident in our contemporary mobile culture. Mobile entrepreneurs redefine commerce and exchange; electronics and hardware recyclers like the Brazilian artists Frederico Paulino and Lucas Mafra through their *Gambiocycle* project merge high- and low-tech methods; map hackers overlay sound, image, and other media on the virtual environment; and urban guerrillas create new mobile and WiFi autonomous networks and experiences. In a time of peak oil, when motorized vehicles as we know them have gone way past their expiration date, the artists, scholars, workshops, and discussions featured in Dynamobilities are helping to redefine public and private space and offer alternative visions for a joyful transition.

: LATIN AMERICAN FORUM

ANDRÉS BURBANO

Focus Day Leader, ISEA2012

Media Arts & Technology Scholar,
The University of California Santa Barbara

IN THE BOOK *LA RECUPERACIÓN DE TECNOLOGÍAS INDÍGENAS*, Peruvian anthropologist Alexander Herrera describes an archaeological site from early modernity in Bolivia: the Uyuni railway complex in Potosí. This site is a sort of cemetery of large pieces of railway equipment. In a picture of the place included in the book, one can read hand-written graffiti on a huge abandoned locomotive: *That’s life: We need an experienced mechanic*.

The conceptual core of ISEA2012 ALBUQUERQUE: *Machine Wilderness*, which has been translated into Spanish as “Máquina Indómita,” is an idea proposed by the cultural geographer Ronald Horvath to address the automobile’s impact on the landscape of the southwestern United States. With spaces in mind like the Uyuni railway complex, it has been clear since the beginning that the conceptual guidelines of ISEA2012 have deep resonances with several issues relevant to Latin America.

The resonances do not stop there; several of the subthemes of ISEA2012, such as **Transportation**, **The Cosmos** and **Power**, touch the nerve of many activities that are taking place right now in Latin America. Such is the case with the project *SEFT-1* by Ivan Puig and Andrés Padilla Domene, who have designed a machine for exploring abandoned railroads in Mexico as a futuristic exploration of Mexico’s past. At ISEA2012, the *SEFT-1* will make a historic border crossing from Mexico to the United States, highlighting a process for a creative reading of border issues.

For its participation in ISEA2012, the Mexican Space Collective explores celestial and cosmic spaces with the project *Ulyses I*. The Mexican Space Collective has developed a project around the building and launching of a satellite into space. The launch operates in the conceptual field but also in real orbital space. To emphasize the discussion of “The Idea of Latin America,” the Forum revisits the history of the Navajo CodeTalkers by inviting representatives of the community to engage in a respectful dialogue that affirms the commitment of a new discourse on Latin America regarding indigenous communities.

Other key issues to be addressed by the Latin American Forum are the history of cybernetics in Latin America, the emergence of open laboratories, mapping practices, a reflection on women’s participation with processes, and innovation in creative and technological practices, among others. The Latin American Forum is both a space for reflection about Latin America and a platform for the exploration of such reflection through a variety of creative and cultural practices related to technology. The Forum operates as a dialogic space in a dual sense, by promoting the encounter of Latin American artists and thinkers with people from other latitudes, while also confronting the interesting experience of thinking in the familiar when we are away from home.

EN EL LIBRO *LA RECUPERACIÓN DE TECNOLOGÍAS INDÍGENAS*, el antropólogo peruano Alexander Herrera describe un sitio arqueológico de la modernidad temprana en Bolivia: el complejo ferroviario de Uyuni en Potosí. Dicho espacio es una suerte de cementerio de grandes piezas de maquinaria ferroviaria. En una fotografía del lugar incluida en el libro se puede leer un grafiti escrito a mano sobre una enorme locomotora abandonada: Así es la vida: Se necesita mecánico con experiencia.

El eje conceptual de ISEA2012 “Machine Wilderness,” que se ha traducido al español como “Máquina indómita,” es una idea propuesta por el geógrafo cultural Ronald Horvath para referirse al impacto del automóvil en el paisaje del suroeste de los Estados Unidos. Teniendo presente espacios como el complejo ferroviario de Uyuni en Potosí, desde un inicio fue claro que la propuesta conceptual de ISEA2012 tenía profundas resonancias con varios temas relevantes para América Latina.

Las resonancias no paran ahí, varios de los subtemas propuestos en ISEA2012 tales como Cosmologías Radicales, Transportación o Encrucijada sintonizan el nervio de propuestas contundentes que tienen lugar en estos momentos en América Latina. Tal es el caso del proyecto SEFT-1 *Sonda Exploratoria Ferroviaria Tripulada* de Iván Puig y Andrés Padilla, quienes han diseñado una máquina para explorar ferrovías abandonadas en México proponiendo una exploración futurista del pasado de México. La SEFT-1 hará un viaje desde México hasta los EEUU cruzando la frontera y remarcando en dicho proceso la necesidad de una lectura creativa sobre el tema mismo de la frontera.

Por su lado el Colectivo Espacial Mexicano interviene los espacios celestes y cósmicos con el proyecto Ulises I. El Colectivo Espacial Mexicano viene desarrollando un proyecto entorno a la construcción y lanzamiento de un satélite al espacio, dicho lanzamiento opera en el campo conceptual pero también en el mismo espacio orbital. Para enfatizar la atención sobre la discusión entorno a “la Idea de América Latina” el Foro ha propuesto visitar la historia de los Code Talkers invitando a representantes de la comunidad a tomar parte del Foro en un intento por establecer un diálogo respetuoso que afirme el compromiso de un nuevo discurso sobre América Latina respecto a las comunidades indígenas en el mundo entero.

Otros temas claves que se abordarán en el Foro serán la historia de la Cibernética en América Latina, la emergencia de los laboratorios abiertos, los procesos de mapeo, la reflexión sobre la participación femenina en procesos, innovación en las prácticas creativas y las tecnologías, entre otros. El Foro Latino Americano es un espacio para la reflexión renovada entorno a América Latina por un lado y por otro lado una plataforma de exploración de dicha reflexión a través de diversas prácticas creativas y culturales vinculadas a las tecnologías. El Foro operará como un espacio dialógico en un sentido doble, promoviendo el encuentro de artistas y pensadores latinoamericanos con los de otras latitudes y a la vez confrontando la interesante experiencia de pensar en lo familiar cuando se está fuera de casa.

: EDUCATION PROGRAM

AGNES CHAVEZ

ISEA2012 Education Program Director
Artist, Founder of STEMArts/Sube, Inc.

ANITA MCKEOWN

ISEA2012 Education Focus Day Co-leader
Education Consultant / SMARTlab, University College Dublin

FOUR HUNDRED YEARS OF DIVERGENCE BETWEEN science and the arts has ingrained specialized learning in our educational systems, by design and practice. Most recently, this has taken form as an increased focus on STEM subjects (Science, Technology, Engineering and Mathematics), in response to research showing that nation-wide our students are lagging behind in science and math. In turn, funding for arts and humanities has been cut in order to direct more time toward STEM education. How can we begin to integrate our experiences amidst this fragmentation? The arts and sciences combined create a unique portal of exploration through which we discover the nature of reality and express what it is to be human. Has the fragmented approach of the industrial age made way for a new vision of humanity in this century? Is it possible to harness global connectivity and open source technologies to reverse the fragmentation of knowledge, the separation of reason and emotion, the divergence of art and science?

Pluralism, chaos, complexity and ambiguity—the trademarks of postmodern society—are creating a climate of constant flux which affects the way we learn, perceive, and construct the world around us. Success seems no longer defined by our college degrees or what we have learned, but rather by our ability to adapt and learn what is needed at any given moment in time. Whether we are graduates, high school students, or on a career path, we are now all lifelong learners. How can we address the gap between what we learn in schools and the knowledge needed to navigate the multidimensional landscape of the twenty-first century? How can we facilitate a collaborative exchange between the arts and the STEM subjects in search of a more integrated model for learning?

What if there were no rules or career paths and you had to make it up as you go? What if textbooks were obsolete and you had to hunt and gather information to survive? And what if neural pathways were forged in your brain with every new tool you acquired, helping you navigate the constantly shifting landscape? This is the new world of the twenty-first-century student.

Are we ready?

The ISEA2012 Education Program gives us the opportunity to tap into the minds of thought leaders and creatives in the intersecting fields of art, science and technology to explore new learning ecologies. Dr. Kenneth Wesson’s journey through neuroscience and learning models remind us that “robust, deep and long-lasting knowledge involves all disciplines where the knowledge is intertwined and fully integrated.” From CERN, the world’s largest particle physics laboratory in Geneva, Switzerland, Ariane Koek shares “Cern’s latest great experiment, colliding elements even more elusive than the Higgs

boson: namely, human creativity and the imagination.” Scott Snibbe’s delightful mobile learning tools move us to “an understanding of the world as interdependent; destroy- ing the illusion that each of us, or any phenomenon, exists in isolation from the rest of reality.” The program journeys through the world of twenty-first-century innovation, discovering education at the convergence of science and the arts.

: GETTING OFF THE PLANET

JENÉE MISRAJE
PATRICIA WATTS

Co-Curators, *Getting Off the Planet*

IT HAS BEEN TWELVE YEARS since the start of the new millennium. Although it seemed to be the end of the world, with the Y2K computer virus and then 9/11, here we are again, wondering if we will make it past 12/21/12, notably the end of the Mayan calendar. Since the fallout of the global economic crisis in 2008, the gap between the rich and poor is getting wider, with the rich richer than ever before in modern history. And last year, to the surprise of many, NASA's Space Transportation System (STS) program came to a close, leaving the future of manned space vehicles to be carried out by the private sector. With so much going wrong in the world today, the idea of getting off the planet is the new avant-garde.

With recent historic astronomical anniversaries, including 50 years of sending manned rockets and spaceships into outer space, and 40 years since humans walked on the moon, a renewed interest in everything space-related has surfaced. Billionaire Richard Branson's Virgin Galactic is now on track with more than 450 private space customers awaiting their turn to take a suborbital spaceflight on *SpaceShipOne*, going over six miles beyond the Kármán line to float in weightless dark space for approximately six minutes. The point of its departure is Spaceport America, near Truth or Consequences, New Mexico, and the program is projected to start with one flight a week beginning this year.

New Mexico, a state with just over two million residents, is famous for all things outer space. It is the home of the Roswell UFO Incident, which became a pop culture phenomenon; Los Alamos National Laboratories, one of the largest science and technology labs in the world, which has developed space instrumentation and propulsion research; the Very Large Array (or VLA), a radio astronomy observatory near Socorro, which has made key observations supporting intergalactic studies such as the research on black holes; and ancient Native American sites, such as Chaco Canyon, which continues to draw astronomers from around the world today.

Since landing on the Moon in 1969, we have spent more than 40 years looking back at ourselves as inhabitants of a finite planet, becoming more conscious of our limitations. However, with the expansion of our technological abilities, we now have more knowledge of what lies beyond Earth's atmosphere. Our future can now be understood in part as a cultural force that has the capacity to alter our perceptions of time and space in ways that we do not even know exist yet.

Getting Off the Planet is a metaphor for what it will take for the seven billion citizens of Earth to consider a larger framework for understanding what it means to be here now on this planet. Especially with such a plethora of knowledge at our fingertips from years

of data collection by NASA's Earth observatories, missions to the Moon and Mars, and astronomical charts of the universe and beyond.

This is just the beginning. What does this mean for the everyday person, or for the 1 percent? We don't know yet, but one thing is certain: we have already spent billions of dollars of taxpayers' money to begin to find out ... and there is more being earmarked.

Artists have always been at the vanguard of exploration, and more recently they are working along with scientists and engineers to envision new ways of living in the world. By digging deeper into our imagination with a greater knowledge of ourselves and of the universe, we can devise new strategies for our survival—strategies that pay a dividend rooted in social investment, and which might ultimately transform life on Earth for the better.

ARTISTS

Trish Adams	
Alice Alexandrescu, Marc Tomko & Tim Scaffidi	
Stephen Ausherman	Hans Gindlesberger
Annette Barbier & Drew Browning	James Goedert
Leah Barclay	Idris Goodwin & Tricklock Company
Gregory Bennett	Kathy High & Cynthia White
Andy Best	Erin Hudson
Peter Bill & Bruce Bennett	Reese Inman
Peter Bill & Ann Kaneko	Marie-Michéle Jasmin-Bélisle
Harrod Blank	Theun Karelse
Marc Böhlen	Kwende Kefentse
Thomas Boskett & Katherine Moriwaki	Assegid Kidane, Blakely McConnell, David Tinapple & Muharrem Yidirim
Cynthia Brinich-Langlois & Joseph Mougel	Volker Kuchelmeister
Micha Cardenas & Elle Mehrmand	Trudy Lane
Angus Carlyle & Rupert Cox	Adam John Manley
Justin Carter	Christopher Marianetti & Mary Margaret Moore
Raven Chacon	Miwa Matreyek
Chia Yu Chen	David Moss
Claire Côté & Anna Keleher	Leila Nadir
The Chuppers	New Mexi-Bus: Matthew Gwin, Britton Evans, Jasmine Quinsier & Damon Garcia
CorpusElectric	NoiseFold: David Stout & Cory Metcalf
Currents	Chrissie Orr & Jeanette Hart-Mann
DNA Fire Dance Company	Jack Ox, Kristin Loree & Jane daPain
Lucy Davis, Shannon Lee Castleman, Zai Kuning & Zai Tang	Miguel Palma
Bethany Delahunt & Luke Hussack	Stephen Pope
Marco Donnarumma	Melissa Ramos
Meredith Drum, Rachel Stevens & Phoenix Toews	Jorge Rojas
Gair Dunlop	Annina Rüst & Amy Alexander
Linda Duvall	Jim Scott
Brian Evans	Colby Sempek
Michael Flynn	Danielle Siembieda-Gribben
David Fodel & Paco Proano	
Frozen Music Ensemble	
Andrew Garrison	

: PERFORMANCES &
CONFERENCE EVENTS

The ISEA2012 symposium includes a series of performances and screenings by artists from around the globe, which were curated and juried through a call for proposals. The work includes single-channel animation, narrative, documentary and experimental methods of addressing relationships between nature and technology, multimedia performance, and digital-dome projections.

DAVID FODEL
& PACO PROANO
[Colorado, USA]

Constructive Interference
interactive performance

Constructive Interference is an interactive audiovisual installation and performance system. Visitors are tracked through the space and collectively generate the visual and sonic landscape. A specially constructed multichannel sound system projects tuned harmonics through large-plate steel sculptural loudspeakers. The same harmonics are visually projected into the space using a three-projector set-up.



SERGIO ROMERO
[Colombia]

Cardumen: synchronized swimming, 2012
film

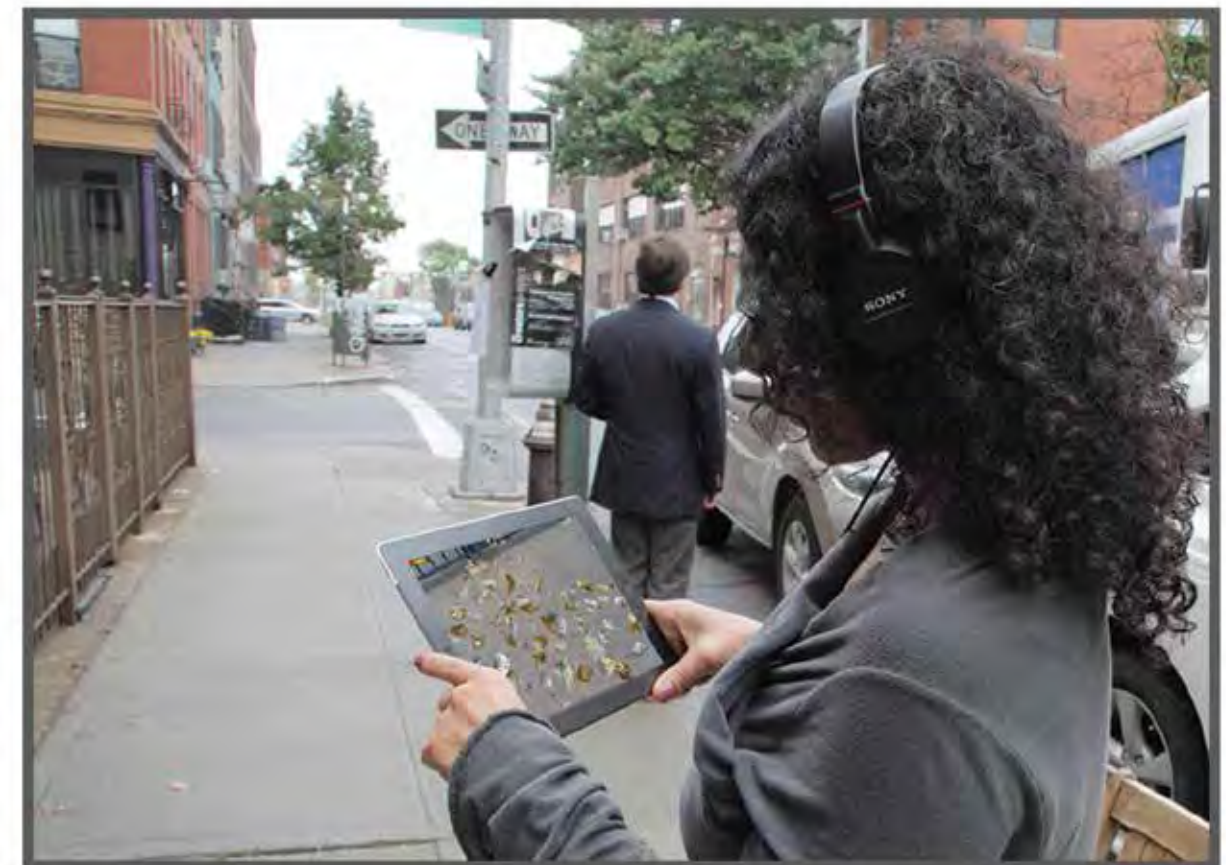
Cardumen is a video focused in a choreographic relationship between a digital organism and a natural one. Through algorithms which allow modeling of 'Boids' behavior (such as flocks, herds, shoal), this work proposes an approach to the characteristics of digital video in order to produce a space in which digital and natural organisms can interact.



MEREDITH DRUM
RACHEL STEVENS
& PHOENIX TOEWS
[Colorado, USA]

Feral City: AR and Significant Otherness, 2011–ongoing
AR walking tour

Feral City is a mobile media, augmented-reality, walking tour, which invites participants to explore a constellation of situated events mixing the physical and the virtual. Narratives of the city's ecology emerge regarding human interchange with urban animals. The tour includes sound narratives and landscapes, virtual graphics, and virtual 3D interactive sculptures, a number of which are large, semitransparent spaces that the participant can enter and investigate.



ANDREW GARRISON
[Texas, USA]

Trash Dance, 2012
film

Choreographer Allison Orr finds beauty and grace in garbage trucks, and in the men and women who pick up our trash. Filmmaker Andrew Garrison follows Orr as she joins city sanitation workers on their daily routes to listen, learn, and ultimately convince two dozen trash collectors and their trucks to perform an extraordinary spectacle on an abandoned airport runway in Austin, Texas, where thousands of people show up to see how a garbage truck can “dance.”



HARROD BLANK
[California, USA]

Camera Van, 1995
mixed media

Harrod Blank had a dream in which he covered his car with cameras and then drove around and took pictures of people on the streets. This dream inspired him to build such a vehicle in reality. It features more than 2,500 cameras, some of which are wired to function, digital monitors displaying a slide show of images taken by the van around the world, and a film strip made up of multiple TV monitors on which Blank's film *Automorphosis* is shown.



DAVID DUNN, RENE BARGE
GUSTAVO MATAMOROS
[New Mexico, USA]

Frozen Music Ensemble, 2012
24-hour live performance

Frozen Music Ensemble is a unique vehicle for the development and implementation of a novel kind of extended electroacoustic music presentation, at times lasting upwards of thirteen hours. Each performance is a kind of acoustical "tuning" or redrawing of the existing aural landscape through direct sound generation and amplification.



RAVEN CHACON
[New Mexico, USA]

Totem of the Total Siren, 2012
performance

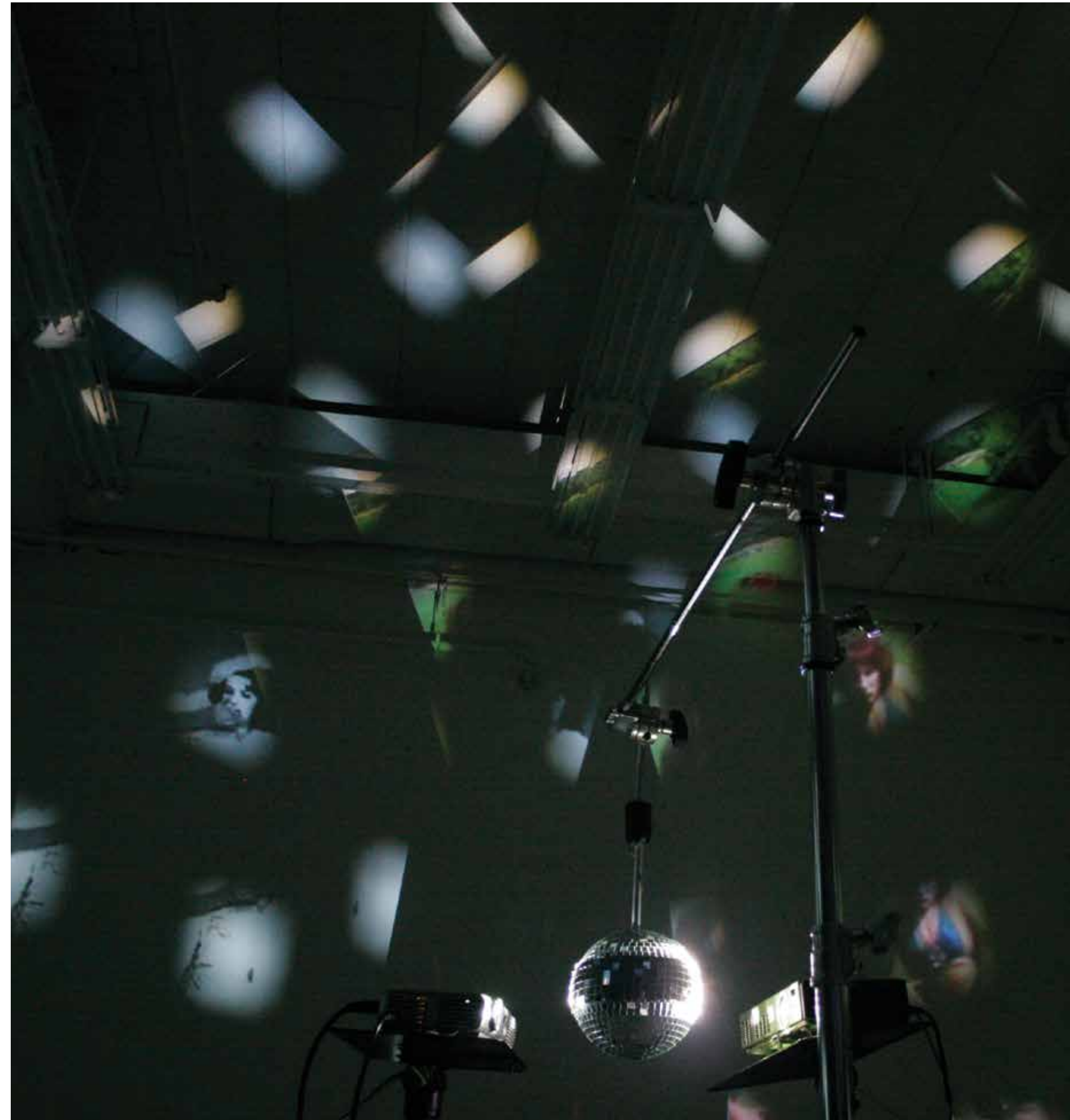
Totem of the Total Siren utilizes custom-built electric and electronics instruments: an antler-glass harp, a snare-oscillator, and various throat-amplifiers. Raven Chacon's sound, visual, and installation work aims to anticipate the near-future sonic, graphic, and political landscapes of this desert region and its peoples.



ANNINA RÜST
& AMY ALEXANDER
[New York, USA]

Discotrope: The Secret Nightlife of Solar Cells, 2012
performance
audiovisual performance, projection on
modified disco ball using custom software.

Discotrope is a nighttime performance featuring a solar-powered disco ball. The show invokes both alternative energy and the curious history of dance in cinema—from back lots to backyards—from Thomas Edison to YouTube.



CORPUS ELECTRIC COLLECTIVE
LED BY MEGAN JACOBS
MIRIAM LANGER
NINA SILFVERBERG
TATYANA DE PAVLOFF
& STACY ROMERO
[New Mexico, USA]

Corpus Electric, 2012
LEDs, IR sensor, Origami paper, handmade paper

Corpus Electric is a tech-fashion collaboration between Media Arts students from New Mexico Highlands University, the Taos Runway Vigilantes, and students from the ISEA2012 Visiting Artists Teaching Program. Participants integrate technology into wearable costumes and accessories, multimedia backdrops, and lighting for a tech-fashion performative event.

Made possible in part by Intel Corporation



MIWA MATREYEK
[California, USA]

Myth and Infrastructure, 2012
multimedia

Myth and Infrastructure is a multimedia, live performance using projected animation. As Matreyek walks behind the screen, her shadow becomes an integral part of the fantastical world she has created. She traverses oceanscapes and cityscapes as she conjures magical scenes with light and shadow.



LUCY DAVIS
SHANNON LEE CASTLEMAN
ZAI KUNING
& ZAI TANG
[Singapore]

The Secret Lives of Forest Products:
A Collaboration about Teak, Humans & DNA, 2012
animated video, 24:00

This film is a visual art, science, and ecology exploration which traces the historic, genetic, material, and poetic journeys of a 1950s teak bed found in a Singapore junk store back to a location in Southeast Asia where the original teak tree may have grown. The project brings together cross-cultural natural histories, micro- and macro-arboreal influences and DNA timber tracking technology.

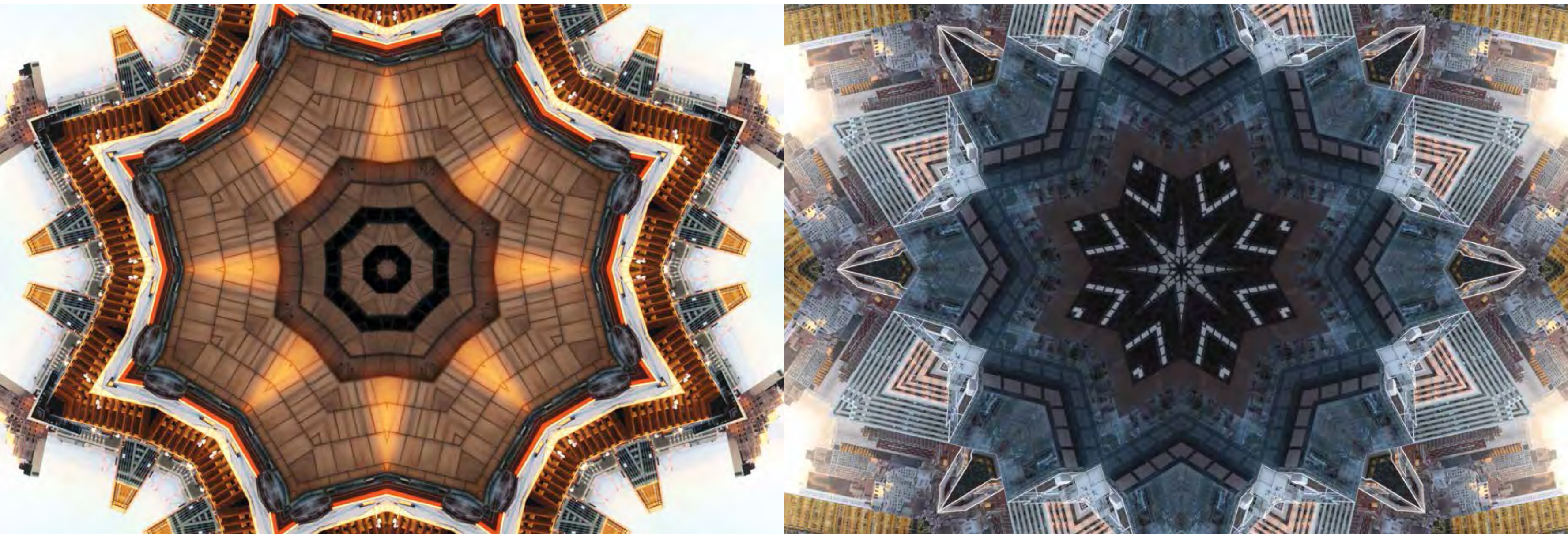


ANNE SPALTER

[Rhode Island, USA]

Sunrise over Rockefeller Center, NYC, 2012
animated video, 3:00

Sunrise over Rockefeller Center, NYC is a geometrically patterned video generated from aerial-style footage shot from the 45th floor of an apartment building. The piece features iconic New York City landmarks, including Rockefeller Center. The rhythmically structured compositions isolate and abstract features and motion in the landscape, highlighting the passage of yellow taxis down Fifth Avenue, for example.



JACK OX
KRISTIN LOREE
& JANEDAPAIN
[New Mexico & Colorado, USA]

Ursonate Project, 2009
performance

This performance of Kurt Schwitters' *Ursonate* (1932), considered the greatest sound poem from the twentieth century, features syllables derived from Ox's visualization moving simultaneously with Loree's sound. It includes mapping techniques, visual sources, and readings from Schwitters' son Ernst's letters to Ox. The digital projections are from Ox's 800-square-foot painting.



STEPHEN AUSERMAN

[New Mexico, USA]

e-scape: Provincetown Edition, 2010
film

e-scape is a digital media project that was originally created and presented in an environment without electrical services. At its core is a video poetry series that explores and interprets the literature and landscape of Cape Cod National Seashore.



MARC BÖHLEN

[Canada]

WaterBar, 2012
stones/minerals, glassware, water,
beverage tubing, electronics, mechanics, software

WaterBar is a public water well designed for the postsustainability age, when clean water is simply not good enough. It includes quartz-rich granite from Inada by Fukushima, home of the latest devastating high-tech catastrophe; sandstone from La Verna, Italy, where Saint Francis cared for the poor; marble from Thassos, Greece, the beginning and end of democracy; and limestone from Jerusalem/Hebron, Israel, source of eternal conflict and shared hopes. An algorithm mixes these remineralized waters in proportion to the intensity of related problems found in pertinent real-time news.



MIGUEL PALMA

[Portugal]

Remote Desert Exploration Vehicle, 2012
altered military vehicle, video recording,
projecting technology

In collaboration with engineers, robotics experts, geographers, car enthusiasts, military historians and others, Miguel Palma has converted a former military vehicle into a remote exploration vehicle that explores desert surroundings during the day and returns to urban areas to project the desert imagery on buildings and other spaces at night.

Made possible in part by ASU Art Museum and the Desert Initiative



: RESIDENCIES

ISEA2012 includes a series of residencies and special projects hosted by partnering organizations around New Mexico and the region. These include artist-scientist residencies, site projects, artworks, performances, and presentations, with schools, arts organizations, environmental organizations, and the scientific and technological communities. Many of these projects feature a gallery component as part of the main ISEA2012 exhibition.

Residencies and special projects were selected through a call for proposals by the international jury and the project host organizations.

ARTISTS

- Evan Apodaca
- Jason Baerg
- Ranjit Bhatnagar
- Natalie Carlton, Mark Goldman,
Scott Moore & Siena Sanderson
- Todd Ingalls
- Andreas Maria Jacobs
- Nova Jiang
- Waheguru Khalsa
- Mick Lorusso
- Antony Nevin
- Teri Rueb, Carmelita Topaha & Larry Phan
- Francesca Samsel
- Michael Schippling
- Jessica Segall
- Paul Vanouse & Joan Linder
- Blue Wade, Kura Puke & Matahiapo
- Nina Waisman
- Ruth West
- William Wilson
- Marina Zurkow

Albuquerque Academy presents	Nina Waisman's works highlight the roles that gesture, rhythm, and mirroring play in forming our thoughts. Scientists call such “physical thinking” the preconscious scaffolding for human logic. How might our new tech-inflected gestures, then, be shaping our relationships with bodies and systems we connect to when we move with technology? Waisman creates an interactive sound installation in collaboration with 6th to 12th grade students at Albuquerque Academy.	During her residency in the desert of Los Lunas, artist Nova Jiang gathers water through an experimental solar-powered atmospheric water generator invented by artist Jamie O’Shea. Passing clouds observed in Los Lunas are documented, modeled in software, and 3D printed in ceramics. Participants are invited to a water-tasting party where they use the ceramic cloud vessels to sample the water gathered. After the residency, the cloud vessels are abandoned on site, where they will most likely never be seen again.	Earthbound Moon presents
NINA WAISMAN			NOVA JIANG
City of Albuquerque Open Space Visitor Center presents	During the Open Space Residency, sound artist Ranjit Bhatnagar uses found and salvaged materials from the Bosque to create a set of sound sculptures that are activated by the wind. These sculptures, inspired by windmills, turbines, wind chimes, and so forth, are placed around the site for visitors to discover and to play by hand if they wish.	Performance artist, sculptor, and backyard engineer Jessica Segall screens footage she took from her recent venture to the Arctic, where she sailed up the coast of Spitzbergen, testing custom survival suits and solar-cell projectors on glacial surfaces. Her work is presented as a drive-in theater, projected from an off-grid projector onto a wall of ice installed in Moriarty.	Earthbound Moon presents
RANJIT BHATNAGAR			JESSICA SEGALL
Amigos Bravos presents	<i>Beautiful Midden: Reclaiming Machine Space</i> provides deep links between the arts and eco-system restoration. The project location is gateway to a 400 foot canyon, a spectacular place of beauty and natural drama that has been trashed and neglected. <i>Beautiful Midden</i> reclaims disturbed areas (turning trash into sculptures), and re-envisions social relationships to nature through communal creative acts that honor culture, wilderness and spirit. <i>Beautiful Midden</i> furthers the ISEA2012 vision of redefining “Machine Wilderness.”	During his residency at the Harwood Art Center, visiting artist Waheguru Khalsa forms a temporary collective with local community members to create <i>The Cultural Urban Mapping Project</i> . Through a series of workshops, participants examine various ways of sharing and representing oral histories. Together the stories and objects that emerge from this process create a portrait of the participants’ collective experience and memory of this place. The project culminates in the creation of a free, self-guided cell phone audio tour of Albuquerque, and an accompanying map with QR codes.	Harwood Art Center / Escuela del Sol Montessori presents
NATALIE CARLTON MARK GOLDMAN SCOTT MOORE SIENA SANDERSON			WAHEGURU KHALSA
Anderson-Abruzzo Albuquerque International Balloon Museum presents	<i>BELUGA</i> is an installation that invites participants to transform their experience of human interaction into another mode, one of visible light and movement. The Belugas are winged blimps floating in space, which, through the use of embedded sensors, are aware of their surroundings, people, and conversations. As people talk, the Belugas react, gently illuminate, and then flap towards the source of the conversation. As people gently touch the Belugas, they respond and change colors. The installation at the Anderson Abruzzo Albuquerque International Balloon Museum encourages audiences to engage playfully with environments that are illusory, transitory, responsive, and fluctuating.	Cree Métis artist Jason Baerg utilizes significant symbolic indigenous numeric values to inform narrative, color and repetition. The piece <i>There Was No End</i> is a unique interactive work that investigates global social metaphors with interest to activate collective observation and response. The 360° spherical display of abstracted symbols of the Sun, the Moon, and the Earth appear in sequences of 13 to reference many Indigenous communities’ 13-moon calendar. <i>There Was No End</i> utilizes groundbreaking research and development on the integration sensors and interactivity in the world’s first fully articulated digital dome.	Institute of American Indian Arts Digital Dome presents
ANTONY NEVIN			JASON BAERG
Axle Contemporary presents	<i>We Are Experiencing Some Turbulence</i> is a site-specific installation by Santa Fe bricoleur Michael Schippling in the Axle Contemporary mobile gallery. It comprises a truck full of small objects that move in what might, or might not, be random patterns. Proximity sensors allow the viewer to exercise some control over the motion so it becomes a meditation on our ability to distinguish the random from the regular.	This exhibition is, in part, a culmination of a three-week international project, where artists and indigenous youth will participate in a cultural exchange. <i>My land my light</i> creatively integrates science, technology, and indigenous knowledge to realize a series of illuminating interactive artworks. The collaboration investigates how science, technology, and indigenous knowledge can be utilized to create meaningful visual culture promoting identity, agency, and autonomy.	Intel Corporation presents
MICHAEL SCHIPPLING			BLUE WADE KURA PUKE & MATAHI APO

LEAP presents
PAUL VANOUSE
JOAN LINDER

Site-based, low-tech, non proprietary, free-range, *Peoples PCR* is an experimental project by New York–based artists Paul Vanouse and Joan Linder. Predicated on Do-It-Yourself locating, collecting, and incubating of *Thermus aquaticus* (an organism native to thermal springs and at the heart of contemporary biotechnology), the artists utilize geothermal features of Northern New Mexico to “take back” molecular biology. *Peoples PCR* presentations and interactive installations are featured during NeoRio, an annual outdoor public symposium and celebration at the Wild Rivers Recreation Area near Questa, New Mexico. This special project was facilitated by LEAP and hosted by the BLM Taos Field Office. Documentation of *Peoples PCR* can be found online at www.leapsite.org.

Local Poets Guild presents
ANDREAS MARIA JACOBS

Andreas Maria Jacobs of the Netherlands, recipient of this e-poetry residency, is the editor of the online magazine *Nictoglobe Magazine: A Journal of Transmedial Arts & Acts* (www.nictoglobe.com). He is creating an e-poetry project on ISEA2012 themes during a stay at a rural New Mexico retreat.

New Mexico Wilderness Alliance presents
MARINA ZURKOW

Gila 2.0 visual signage is displayed at the Gila Wilderness trailheads or roadside, and in other graphical formats. The focus of the signage is the reintroduced Mexican Wolf, centrally positioned in the nature/culture debate that arises when interests (non human as well as human) intersect. Seen either as the endangered poster child for native wilderness or as a competing predator, the Mexican Wolf coexists with landowners, livestock, game hunters, pets, and ecotourists. The signage leverages native “prehistoric” Mimbres/Mogollon designs—the animistic and geometric pottery that has become a graphic signature for the Southwest—and uses tracking data gathered from the radio-collared wolves, in order to visualize the complex set of relationships that comprise a contemporary ecosystem.

PLAND presents
MICK LORUSSO

In his artwork, Mick Lorusso focuses on the development of new ways to imagine energy and see it flow from the microscopic to the galactic scale. He looks to ecological, practical issues that address human necessities—such as renewable energy—asking, “What happens when we no longer have electricity? What other kinds of energy are there—physical, mental, spiritual, social? How do we tap into and fuel such energies without overexploiting? PLAND (Practice Liberating Art through Necessary Dislocation) is a multidisciplinary organization that supports the development of experimental and research-based projects through a variety of on- and off-site programs. Headquartered off the grid in Tres Piedras, New Mexico, PLAND is a hands-on, exploratory approach to Do-It-Yourself alternative living.

The concept of wilderness is heavily inflected with European meanings and associations, including domination of peoples and environments, yet every culture holds aside certain places and things that are explicitly left undefined, un-named, un-seen, un-touched, un-spoken. Drawing visitors out into the landscapes surrounding The Institute of American Indian Arts in Santa Fe, this GPS-based sound walk and spatialized sound composition explores the concept of wilderness and its shifting meanings across cultural contexts. A "visitor center" and series of critical mappings are presented at the Santa Fe Art Institute and related exhibition spaces throughout the area.

Fundamental to the Scientists/Artists Research Collaborations (SARC) is the precept that science-art collaborations should be of mutual benefit to the furtherance of both the arts and the sciences, and to their positive implications for society. SARC is initiating a pilot series of professional artists' collaborations with Los Alamos and Sandia National Laboratories research teams. Santa Fe Institute (SFI) has invited the artists and Lab collaborators for working group presentations, discussions, and interactions with SFI scientists. The Bradbury Museum, and other partners are providing public presentation and discussion opportunities. Additional artists and scientists are being invited to be part of an expanding SARC Pool. The start-up projects and interactions resulting from these inaugural SARC collaborations pave the way for an ongoing program that is planned to result in new research, exhibitions, and publications. SARC has been initiated in partnership with 516 ARTS for ISEA2012, and is currently funded in part by Los Alamos National Labs/New Mexico Consortium, and Sandia National Laboratories/Lockheed Martin Foundation.

Austin-based artist Francesca Samsel will work in tandem with UTEP scientist Craig Tweedie and College of Engineering's Cyber-ShARE Center technical staff to interpret into digital, visual form the data collected and analyzed from Dr. Tweedie's environmental science research, which examines the cascading effects of regional climate change in extreme environments through the interconnected physical, biological, and human subsystems. Samsel's artwork is created specifically for the 45-monitor visualization wall at the Cyber-ShARE Center, unveiled at *Shifting Sands*, UTEP's preconference symposium.

Ultrasound is an electronic sound installation that actively involves spectators in sound manipulation and discovery. The piece is a network of stainless-steel wires that hold electromagnetic memory of prerecorded voice audio that visually resembles an abstracted body lying upon an operating table. The wire construction is based upon organic and biological systems of tensional integrity which when clipped and rubbed produce various sounds. Participants discover the noise possibilities produced through the wire tension and the sound memories in each segment while wearing a recording transducer composed of reel-to-reel tape heads.

Santa Fe Art Institute presents
TERI RUEB
CARMELITA TOPAHA
LARRY PHAN

Scientists/Artists Research
Collaborations (SARC) presents
TODD INGALLS
FRANCESCA SAMSEL
RUTH WEST
WILLIAM WILSON
ADRIANNE WORTZEL

University of Texas, El Paso presents
FRANCESCA SAMSEL

University of New Mexico, Taos presents
EVAN APODACA

NINA WAISMAN

[California, USA]

Body Envelope, 2012

sensors, wire, acrylic, speakers,
amplifiers, computer, microcontrollers



RANJIT BHATNAGAR
[New York, USA]

Trumpet Marine 3, 2008
wood, plastic, acrylic paint, guitar strings



JASON BAERG
[Canada]

There Was No End, 2012
interactive digital dome visualization



MICHAEL SCHIPPLING
[New Mexico, USA]

Engine of Desire, 2012
multi-media



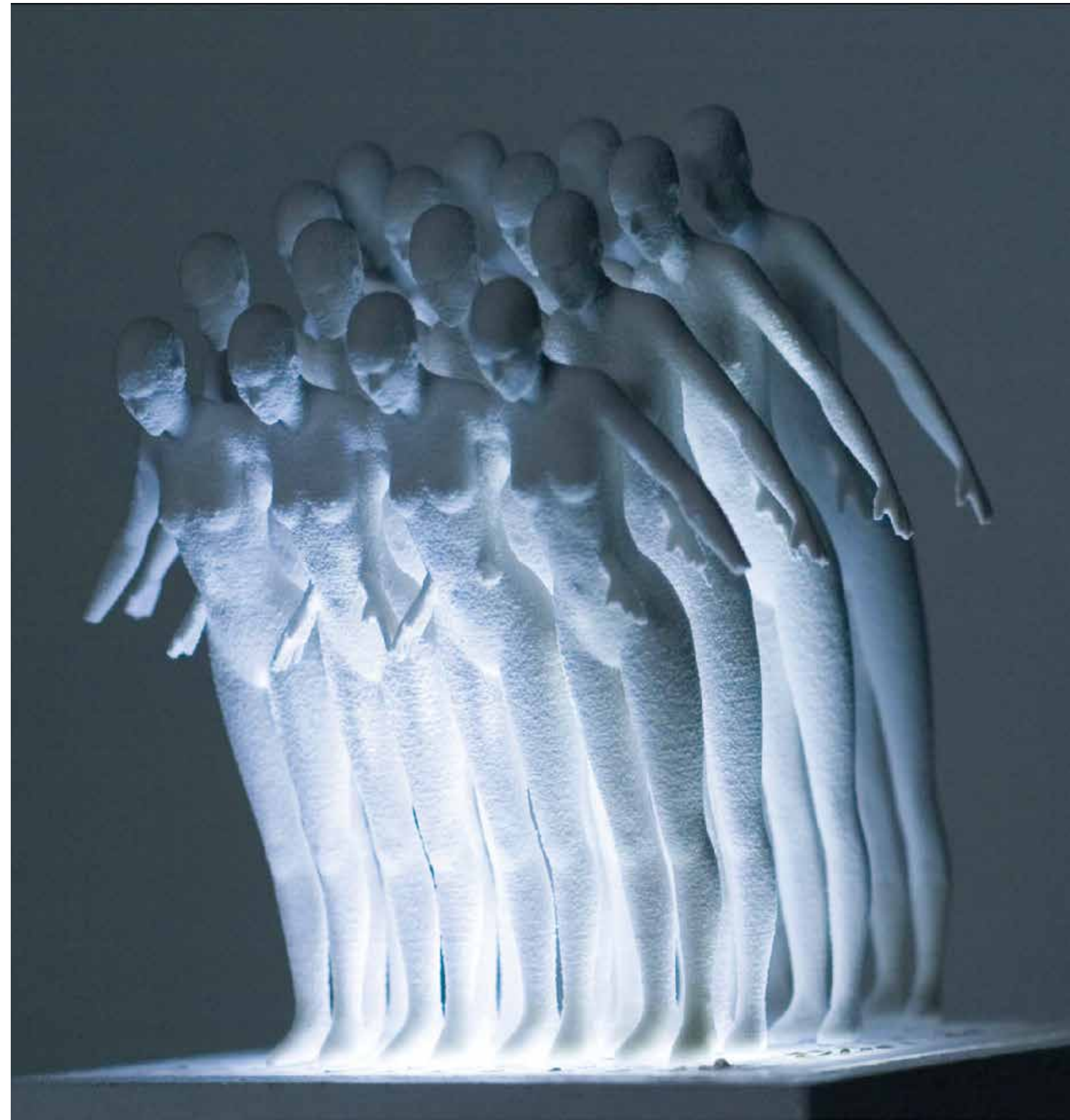
JESSICA SEGALL
[New York, USA]

**The Thirsty Person, Who
Having Found A Spring,
Rushes To Drink, Does Not
Contemplate Its Beauty,** 2011
film

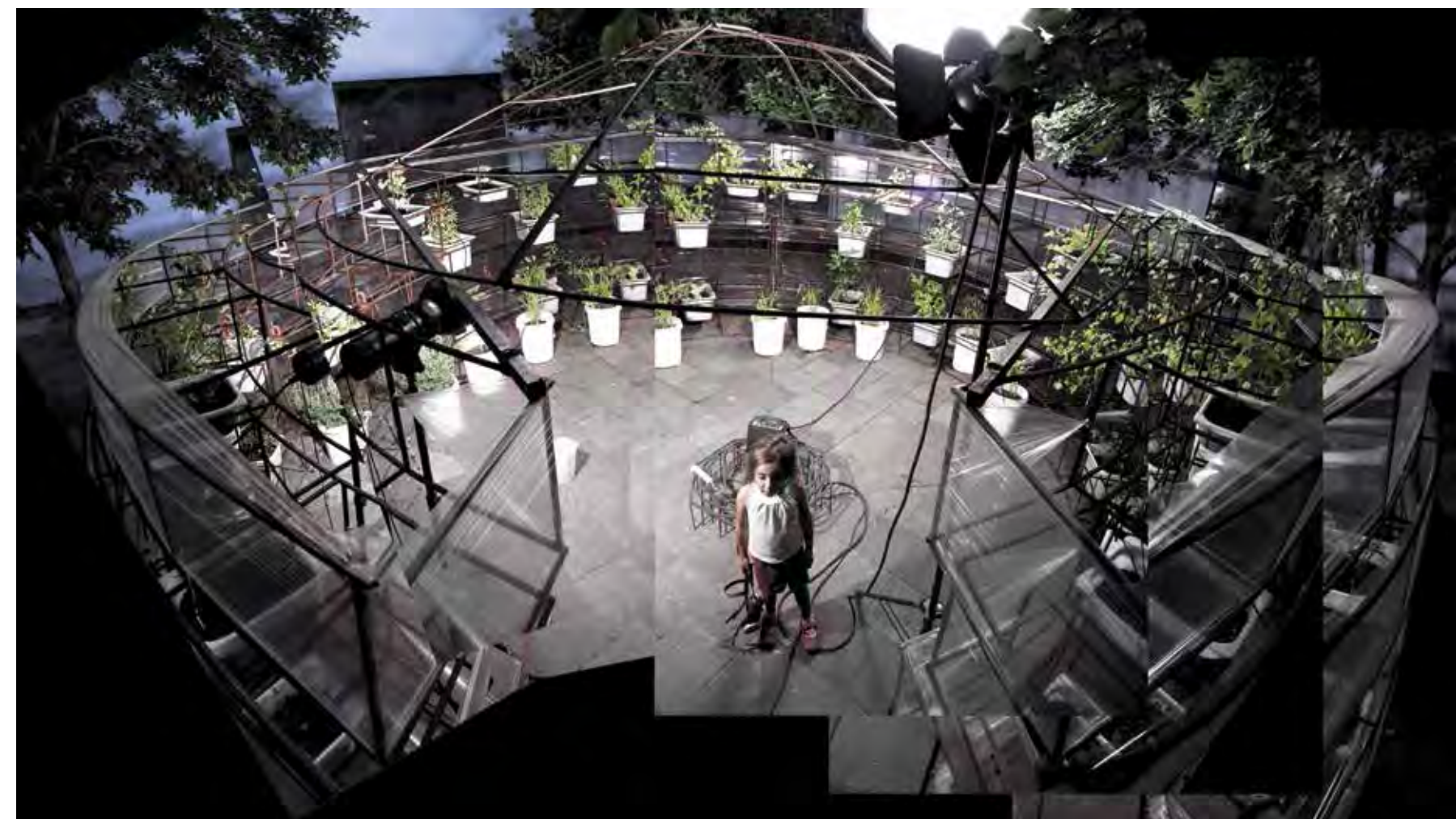


BLUE WADE
KURA PUKE
& MATAHIPO
[New Zealand]

My Land My Light, 2010
data, rapid prototyping plaster



WILLIAM WILSON
[New Mexico, USA]
AIR LAB, 2010
multimedia



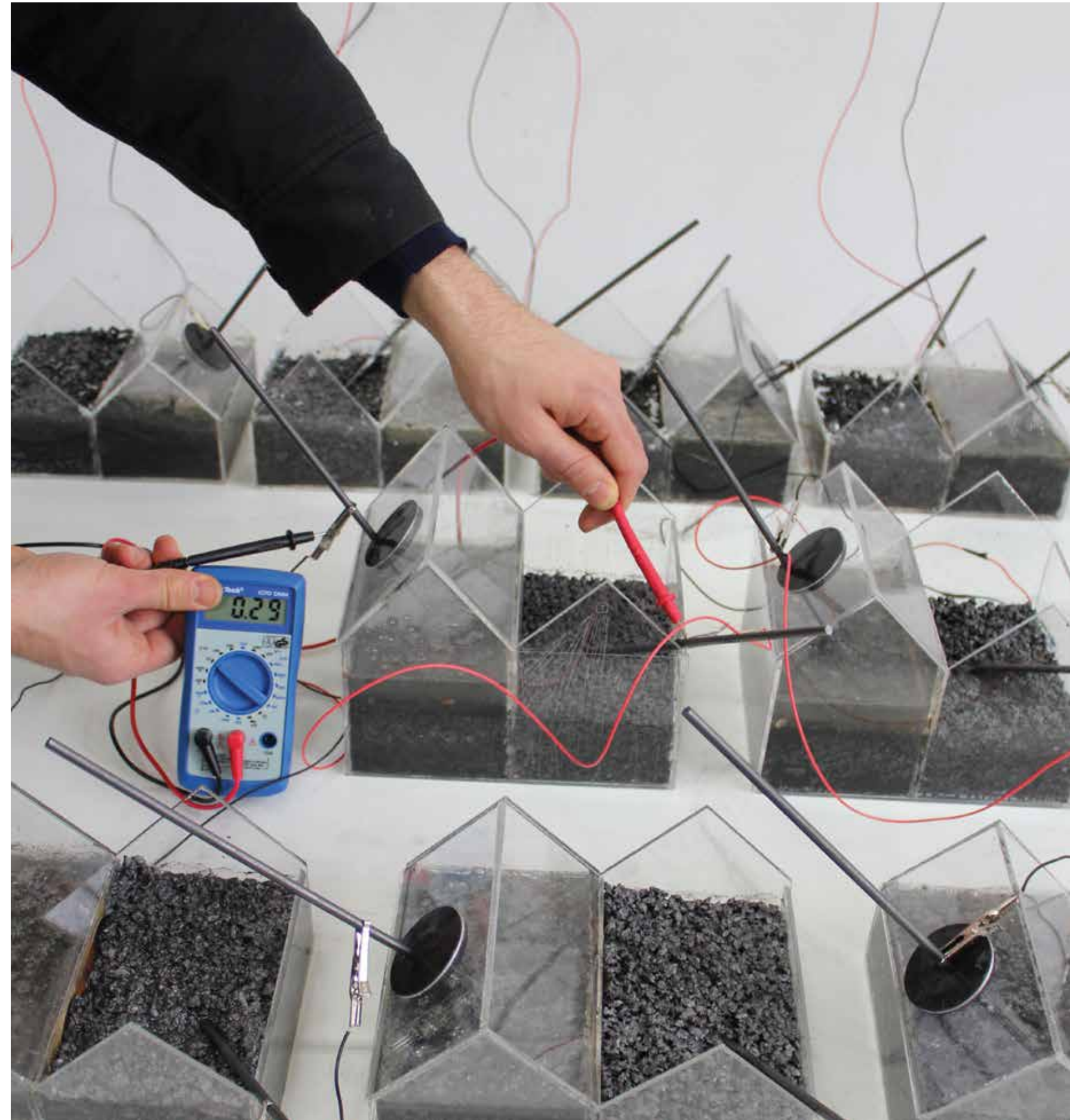
FRANCESCA SAMSEL
[Texas, USA]

Transitioning Extremes, 2012
still from 45-monitor tiled video display



MICK LORUSSO
[Arizona, USA]

Micro-Macro Transfer Points, 2012
multimedia



: ACKNOWLEDGMENTS

SUZANNE SBARGE
ISEA2012 Executive Producer
516 ARTS Executive Director

I WOULD LIKE TO THANK THE ISEA International Board of Directors for selecting our proposal for Albuquerque to be a host city. Thank you to Artistic Director Andrea Polli and the 516 ARTS Board of Directors and staff for undertaking such a vast project. Their vision and commitment to bringing ISEA2012 to fruition over three years of planning, organizing, and fundraising have been truly remarkable.

Very special thanks go to Dean Jim Linnell of the University of New Mexico College of Fine Arts, former Provost Suzanne Ortega and current Provost Chaouki Abdallah, who helped us to set ISEA2012 in motion, and all the generous funders and elected officials who joined together to support ISEA2012, including Owen Lopez, Wendy Lewis, and Norty Kalishman of the McCune Charitable Foundation; Albuquerque Mayor Richard Berry and the Albuquerque City Council; City of Albuquerque Cultural Services Director Betty Rivera; Albuquerque Public Art Urban Enhancement Program Manager Sherri Brueggemann; Bernalillo County Commissioner Maggie Hart Stebbins; New Mexico Cultural Affairs Secretary Veronica Gonzales; Ray Graham of The FUNd at Albuquerque Community Foundation; Jami Grindatto, Natasha Martell, and Thomas Greenbaum of Intel Corporation; The Andy Warhol Foundation for the Visual Arts; New Mexico Tourism Department; Debra Romero and The Albuquerque Museum Foundation; ISEA2012 Fundraising Chair Marta Weber and Development Associate Jane Kennedy; and 516 ARTS Board Members Arturo Sandoval, Juan Abeyta, David Vogel, Perry Bendicksen, and Clint Wells.

I am deeply grateful for the vision and generosity of our more than 100 program partners around the region, especially the leading individuals and institutions including Cathy Wright and Andrew Connors of the Albuquerque Museum of Art & History; Catalin Roman, Doug Brown, Geraldine Forbes, Katya Crawford, and Mark Peceny of the University of New Mexico; Charles Walters of the New Mexico Museum of Natural History & Science; Marilee Nason and Laurie Magovern of the Anderson-Abruzzo Albuquerque International Balloon Museum; Rick Rennie and the Alvarado Urban Farm; and all the other participating organizations, too many to name here. Thank you to all the artists and presenters, so many of whom made personal investments and did their own fundraising to make their participation in ISEA2012 possible. There are many layers of participants to thank, including the jurors from around the world, the web team out of the University of Wisconsin Milwaukee, and especially the volunteer theme and focus day leaders: Andrés Burbano; Agnes Chavez and Anita McKeown; Erin Elder, Nina Elder, and Nancy Zastudil; Catherine Harris; Andrea Polli; Lea Rekow and Tom Leeser; and Stephanie Rothenberg.

Last but not least, profound thanks go to my fellow organizers, without whose dedication, inspiration, comradery, and hard work, ISEA2012 would not have been possible, including 516 ARTS staff members Rhiannon Mercer, Teresa Buscemi, and Claude Smith; Jenny McMath and Laura Kesselman of Kesselman-Jones, Inc.; and Nicholas Chiarella, our AmeriCorps staffperson for ISEA2012. Thank you for the tremendous teamwork it has taken to produce this major event together.

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ISEA2012 is part of a series that started in 1988 and is overseen by the ISEA International foundation (www.isea-web.org). The International Symposia on Electronic Art have become the most important academic gathering on electronic art world-wide and aim at bringing together the worlds of art and science. ISEA is a nomadic event. The next editions are ISEA2013 in Sydney, Australia (www.isea2013.org) and ISEA2014 in Dubai, United Arab Emirates



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