



## Summary

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## *Invisible territories*

Created 8 years ago by Henry Chapier and Jean-Luc Soret, the @rt Outsiders Festival deals with the relationships between art, science and new technology.

Entitled "Invisible Territories", this year's festival confronts us with multiple scale values and is based on a two-pronged approach - the first, literal approach proposing a stroll around the new creative spaces opened up by the infinitely small; and the second, metaphorical approach dealing in particular with the idea of spatial, temporal, compression or reduction, whether this be cinematographic, photographic or poetic.

By means of films, videos, sculptures, multimedia installations and photographs, the @rt Outsiders Festival has chosen to highlight the many platforms used by artists to express themselves. These are works that overturn our points of reference.

A team of guides is on hand throughout the festival to discuss the works on show with the public. Students from a wide range of cultural and artistic disciplines, they provide well-informed illumination regarding the artists and their work, whilst prompting reflection on the links that art has with science and new technology.

## Scenic installations

### **FEMMES TRANSPARENTES (2007)**

**Multimedia installation by Rv6 - Rodolphe GOMBERGH  
Organisation Sylvain ORDUREAU.**



Golden Lady - Femmes Transparentes

Artist and radiologist, Rodolphe Gombergh has created an original medical imagery technique to examine the inside body from the outside. It was through his involvement in numerous high-tech research projects that he decided to divert the medical progress achieved through scanning towards a rich and creative artistic vision of the unknown human body.

Fascinating and disconcerting, his creations challenge and invite the spectator to an odyssey between microcosm and macrocosm. With *Femmes Transparentes*, Rodolphe Gombergh manipulates substance and transparency, to juxtapose the living with the non-living, the animate with the inanimate. He creates pictures of women between surrealism and poetry.

Through photography, video, holography and autostereoscopy, this multimedia installation presents the intimacy of human's body.

### **POWERS OF TEN (1977)**

**Video by Charles and Ray EAMES**

*Powers of Ten* takes us on an adventure in magnitudes, from the infinitesimal to the infinitely great. This famous film made by Charles and Ray Eames in 1977 begins with the scene of a picnic by the lakeside in Chicago, and brings us to the outer edges of the universe.

Every ten seconds we view the starting point from ten times farther out until our own galaxy is visible only as a speck of light among many others. Returning to Earth with breathtaking speed, we move inward- into the hand of the sleeping picnicker- with ten times more magnification every ten seconds.

This great journey is presented in a single sequence. This film shows a surprising and informative vision of what the universe is, both around us and inside us. We can truly be fascinated by these pictures, but also feel even more curious about our own world.



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© Ken Goldberg / Karl Bohringer. Courtesy Catharine Clark Gallery, San Francisco

**FLW (1996)**  
**Sculpture by Ken GOLDBERG and Karl BOHRINGER**

*Flw* by Ken Goldberg and Karl Bohringer is a 1/1 millionth scale model of Frank Lloyd Wright's *Fallingwater* (1936), fabricated from silicon.

Wright employed the cantilever: a horizontal structure for distributing force. Minature cantilevers are used to measure forces in devices etched from silicon. Examples of current research can be found at many labs including UC Berkeley, Cornell and UCLA.

The structure is so small that 48 copies fit comfortably into a region the size of a peppercorn. This *Fallingwater* model made us think about infinitesimal and the power of technology. We realize that this invisible scale corresponds to a huge potential.

**READONLYMEMORIES (2003)**  
**Digital photographs by Grégory CHATONSKY**

Co-production numeriscausa and Festival @rt Outsiders / MEP

The cinema was a decisive element in the constitution of the imagination in the 20th Century. We have probably all dreamed our life as if it were a film, the film of our very consciousness.

This cinematography of the imagination has its roots in a certain fitting together of time and space. The latter is recomposed by the temporal flow that defines the movement of the camera and the running of the projector. The spectator sees fragments of space at a given time, the camera moves and reveals other fragments that are arranged next to each other by the spectator. Thus, the spectator imagines a space larger than the one shown during the projection of the film.

*Readonlymemories* is an examination of the known and the unknown in films. We have all seen the apartment building in *Rear Window*, Dorothy's bedroom in *Blue Velvet* and the twin brothers from *Dead Ringers*, yet we have never actually seen them on the screen.



© Grégory Chatonsky. Courtesy Numeriscausa Gallery, Paris.





**NANOMANDALA (2003)**  
**Multimedia Installation by Victoria VESNA**  
**in collaboration with James GIMZEWSKI.**

The installation consists of a video projected onto a disk of sand, 8 feet in diameter. Visitors can touch the sand as images are projected in evolving scale from the molecular structure of a single grain of sand - achieved by means of a scanning electron microscope (SEM)- to the recognizable image of the complete mandala, and then back again.

To complement the video, sound artist Anne Niemetz has developed a meditative soundscape derived from sounds recorded during the creative process of making the sand mandala.

This coming together of art, science and technology is a modern interpretation of an ancient tradition that consecrates the planet and its inhabitants to bring about purification and healing. The sand mandala of Chakrasamvara was created by Tibetan Buddhist monks from the Gaden Lhopa Khangtsen Monastery in India.

**NANO-SCAPE (2002)**  
**An invisible interactive sculpture**  
**by Christa SOMMERER and Laurent MIGNONNEAU**

This nano-scale sculpture is invisible, just like the world it comments about. While science and media try to capture images of these tiniest of particles in order to understand their properties, *Nano-Scape* tries to make this Nano-world intuitively accessible through touch.

A wireless magnetic force-feedback interface allows users to touch invisible particles, creating an ever changing invisible sculpture which modifies its shape and properties as users interact with it and with each other. When users experience *Nano-Scape*, a mental image of an invisible sculpture and its shape emerges. The user's mental image of the "invisible sculpture" becomes in fact a main component of the work of art.

In terms of interactive art and interface design this works tries to push the boundaries of the known and established. *Nano-Scape* understands itself also as a reaction to the current trend in interactive media art of finding always faster, better and more precise and more realistic and practical interpretations of the visible, the virtual and the "makeable". It tries to juxtapose this trend with a critical and more abstracted question of what interaction is and how the quality of the interaction experience can be reduced to its quintessentials, such as perception, interpretation and perhaps even user expectation.

Photo : Herling & Gwose





**NOX MATER - Study for muons and silence (2007)**  
**Electro-acoustic installation**  
**by Lorella ABENAVOLI and Nicolas REEVES**

Many attempts have been made to render the most spectacular celestial events perceptible - the rumbling of the Sun or of Jupiter, the song of Saturn's rings, echos of pulsars or quasars. These impressive sounds sometimes lead us to forget that the cosmos is above all empty and silent. In spite of their number and size, the stars, planets and galaxies remain infinitesimal compared to the spaces they inhabit. To listen to the heavens is to listen to silence; to watch them is to contemplate stillness. In the cosmic depths that separate the stars, nothing moves.

Nevertheless, a continuous murmuring disturbs this eternal peace. Every fragment of space, at every moment, is crossed by a myriad of particles. Imperceptible and evanescent, they bear witness to ancient stellar shocks, cataclysmic explosions and primordial sparks. They tell of the fertilisation of the cosmos by the embers of shattered stars. These embers, straight from the

heart of a supernova, will go on to form a nebula, from which a new star with its own planetary cortege will be born. The particles will carry the secrets of the composition of a faraway star across improbable distances.

The installation offers an experience of this fertile silence. An anechoic room is plunged into almost total darkness. On the walls are high frequency speakers, capable of projecting very narrow, directional beams of sound. In the centre, an organically shaped area contains a cosmic particle detector. The arrival of a particle triggers the emission of a brief sound wave, along with an equally fleeting glimmer, each perceptible only to those in their path. Instantly absorbed by the covering on the walls, they plunge the space back into darkness and emptiness - and into the vastness of its own silence.

*NOX MATER was created with the support of Ministère de la Culture et de la Communication / Dicream and in collaboration with LE CUBE ([www.lesiteducube.com](http://www.lesiteducube.com))*

**SEMICONDUCTOR - Videos and performances.**

**200\_Nanowebbers**

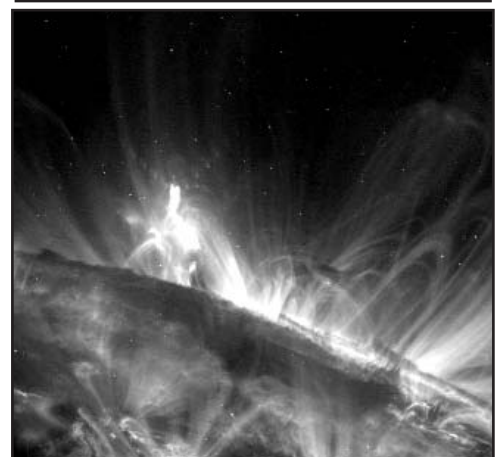
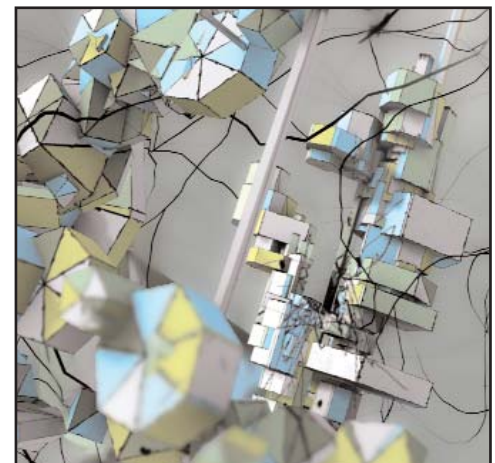
**Audio by: Double Adaptor @[www.osaka.ie](http://www.osaka.ie) (2005)**

For *200\_Nanowebbers*, Semiconductor have created a molecular web that is generated by Double Adaptor's live soundtrack. Using custom-made scripting, the melodies and rhythms spawn a nano scale environment that shifts and contorts to the audio resonance. Layers of energetic hand drawn animations, play over the simplest of vector shapes that form atomic scale associations. As the landscape flickers into existence by the light of trapped electron particles, substructures begin to take shape and resemble crystalline substances.

**Brilliant Noise**

**Stereo sound film (2006)**

*Brilliant Noise* takes us into the data vaults of solar astronomy. After sifting through hundreds of thousands of computer files, made accessible via open access archives, Semiconductor have brought together some of the sun's finest unseen moments. These images have been kept in their most raw form, revealing the energetic particles and solar wind as a rain of white noise. This grainy black and white quality is routinely cleaned up by NASA, hiding the processes and mechanics in action behind the capturing procedure. Most of the imagery has been collected as single snapshots containing additional information, by satellites orbiting the Earth. They are then reorganised into their spectral groups to create time-lapse sequences. The soundtrack highlights the hidden forces at play upon the solar surface, by directly translating areas of intensity within the image brightness into layers of audio manipulation and radio frequencies.







**Earth Moves**  
**TFT/DVD installation (2006)**

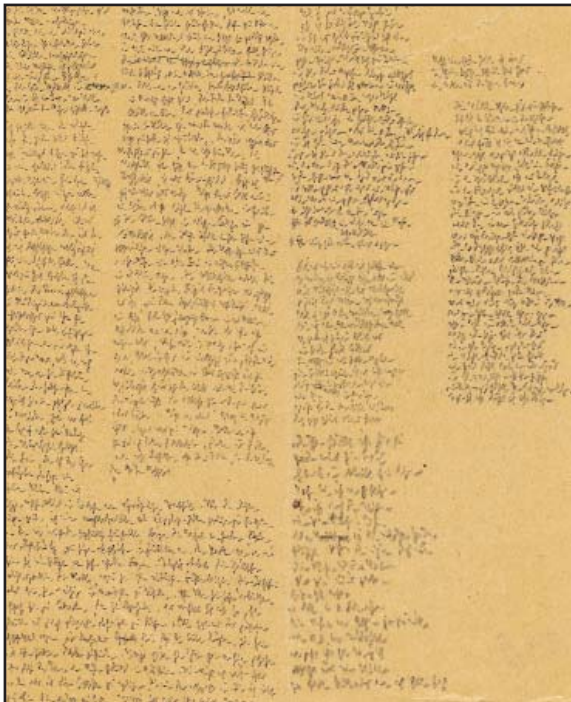
*Earth Moves* is a continuation of Semiconductor's exploration into how unseen forces affect the fabric of our world. The

limits of human perception are exposed, revealing a world which is unstable and in a constant state of animation as the forces of acoustic waves come into play on our surroundings.

The south-east of England is explored through a series of five audio controlled photographic panoramas. Semiconductor collected sound recordings and photographs on location at: The A23 at Pease Pottage, Witterings NT reserve, Findon Valley, John St Brighton and Adur Valley cement factory. The sounds were used to re-animate the landscape at each location.

*Earth Moves* is an Arts Council England commission and is permanently installed at the South East offices, Brighton. *Earth Moves* was developed from an idea initiated during participation in Greg Davilles City Running, Brighton March 2006.

*Performances on friday 28 and saturday 29 of September 2007 (specific timetable of the performances organized with the ARCADI support will be announced further on).*



**MICROGRAM(S) (2007)**  
**Interactive Installation by Thierry CODUYS**  
**based on the work of Robert WALSER**

Micrograms is the name given to the literary, poetic and calligraphic work of the Swiss writer Robert Walser from 1924 onwards, executed in the form of such minuscule handwriting that it borders on illegibility. This miniature pencilled handwriting marked the essential beginnings of Robert Walser's creativity and enabled him to set down his thoughts "in the most dreamy, calm, peaceful, contemplative way", thereby achieving a state of "unique bliss" whilst concealing his work from the eyes of others. These sketches were not intended to reach the reader until they had been re-transcribed in pen, with a view to establishing a proper calligraphic handwriting style. One of the possible explanations for this creative nonconformism lies in Robert Walser's constant refusal to enter the adult world. In this land of secret Lilliputian letters it was tempting to propose an experience that would reunite people with their childhood instincts. The public is therefore invited here to discover the original texts of this unique author, projected onto the intimacy of the palm of their hand.

© Keystone / Robert Walser-Stiftung



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## NANOFICTIONS - LE CUBE

Sunday 7th October from 3pm to 6pm / Free entry  
With Jean-Luc Soret, artistic director of the @rt outsiders Festival  
2.30pm to 6 pm: Free creative multimedia workshop for 6 to 12 year olds

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Researchers and artists have always been attracted by the infinitesimal. In the field of new technology (nanotechnology, medical imagery, nuclear detection and so on), this universe reveals an unsuspected world with many resources that have only been partially explored. This is why we find the future both frightening and fascinating. Le Cube, partner of the @rt Outsiders 2007 Festival, presents a look at this world situated between art and nanotechnology with Jean-Luc Soret and his guests Lorella Abenavoli and Rodolphe Gombergh.

Nanofictions confronts us with multiple scale values (from the nano to the cosmic scale). It is based on a two-pronged approach - the first, literal approach proposing a stroll around the new creative spaces opened up by the infinitely small; and the second, metaphorical approach dealing in particular with the idea of spatial or temporal compression or reduction, whether this be cinematographic, photographic, or poetic.

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LE CUBE,  
Digital creation Centre

The first cultural space dedicated entirely to digital creation, Le Cube is a unique experiment in France, and was created in September 2001 on the initiative of the town of Issy-les-Moulineaux and the "Arc de Seine" urban community. Le Cube is managed by ART3000, an association that has been involved in the field of digital arts since 1988.

Le Cube welcomes a wide range of people to a space dedicated to the practice, production and diffusion of digital arts. Le Cube's mission is to educate the public about the use of information and communication technology in the artistic and cultural fields. It also supports the emergence of new forms of artistic creation, whilst at the same time providing a showcase that is accessible to the general public. Le Cube aims to increase links between the worlds of digital creation, research and new technology.

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## Biographical details and trends

### **FEMMES TRANSPARENTES (2007)**

**Multimedia installation by RvG – Rodolphe GOMBERGH  
Organisation Sylvain ORDUREAU.**

#### RvG – Rodolphe Gombergh

The first stage of Rodolphe Gombergh's work consisted of the *Trans-apparencies*. Exhibited at the Centre Pompidou in 1996, these colour ultrasound scans retraced an emotional in utero journey. In 2000, Unesco decided to stage Gombergh's work on the infinite details of nature, the human body and its creations.

The second stage of Rodolphe Gombergh's work, *The Inner Life of Buddha* was exhibited at the Musée Guimet in 2005. This exhibition was an uncontested media and artistic success, suspended between creation, heritage and research.

In 2007 it is the turn of women to be shown in transparency, at la Maison Européenne de la Photographie. In conjunction with Sylvain Ordureau, who produces his works, Rodolphe Gombergh has perfected holograms of his scans that increase the impact of his magical imagery of the body.

Exhibitions: Le Monde de l'Art (Dec 95-Jan 1996) // Centre Pompidou (25 Sept- 7 Oct 1996) // Le Printemps (25 and 26 April 1996) // Unesco (14 Feb-31 Oct 2000) // Le Printemps de Montmartre (17-29 April 2000) // Hannover Universal Exhibition (1 June-31 Oct 2000) // Monte Carlo International Contemporary Art Prize (16-30 May 2001) // La SCAM (8 Oct-5 Nov 2001) // Opera Gallery/Football World Cup in Korea (March-June 2002) // Paris Capitale de la Création (23 Jan-8 Feb 2004)

Video Installations: Images and Sciences (CNRS Images, Pilier Sud Tour Eiffel) // Imagina' 99 (Monaco) (18-20 January 1999) // Mouans Sartoux (12-14 Sept. 2003) // Quartz Electronic Music Awards (23 March 2007).

### **POWERS OF TEN (1977)**

**Video by Charles and Ray EAMES**

#### Charles and Ray Eames

Charles and Ray met at Cranbrook Academy of Art in Michigan, where Charles was the head of the design department. Ray had studied painting with Hans Hoffman, and then at Cranbrook assisted Charles and Eero Saarinen in preparing designs for the Museum of Modern Art's "Organic Furniture Competition".

Moving to Los Angeles, California in 1941, they continued their furniture design work with molding plywood. Their molded plywood chair (LCW) was called "the chair of the century" by the influential architectural critic Esther McCoy. The Tandem Sling Seating they have designed for airports are still in use around the world today.

In 1949, Charles and Ray designed and built their own home as part of the Case Study House Program, sponsored by the Arts and Architecture Magazine. Their design and innovative use of materials made this house a mecca for architects and designers from all over the world. In the early 1950s, the Eameses extended their interest and skill in photography into filmmaking. They created over eighty-five short films ranging in subjects from toys to the world of Franklin and Jefferson, from simple sea creatures to the explanation of advanced mathematical and scientific concepts. *Tocatta for Toy Trains* and *Powers of Ten* are two brilliant examples of their skill, creativity and far-reaching interests.

The Eameses also designed numerous museum exhibits for IBM (Mathematica, the 1964 New York World's Fair, The World of Franklin and Jefferson, Copernicus), the Smithsonian Institution, and others. They created a huge seven-screen slide show for the Moscow World's Fair in 1959.

Charles died August 21, 1978. Ray died ten years later to the day. The Eames Office still operates today, run by Charles' daughter, designer Lucia Eames and her children.

[www.eamesoffice.com](http://www.eamesoffice.com)



**FLW (1996)**  
**Sculpture by Ken GOLDBERG and Karl BOHRINGER**

**Ken Goldberg**

Ken Goldberg lives in San Francisco. He is an artist and professor of engineering at UC Berkeley. Goldberg's art installations such as the *Telegarden* have been exhibited at the Whitney Biennial, Venice Biennale, Pompidou Center (Paris), Walker Art Center, Ars Electronica (Linz Austria), ZKM (Karlsruhe), ICC Biennale (Tokyo), Kwangju Biennale (Seoul), Artists Space, and The Kitchen (New York). Goldberg is Founding Director of Berkeley's Art, Technology, and Culture Colloquium and has held visiting positions at San Francisco Art Institute, MIT Media Lab, and Pasadena Art Center. *The Tribe*, a short film he co-wrote, was selected for the Sundance and Tribeca Film Festivals. *Ballet Mori*, a multi-media project he developed to commemorate the 1906 Earthquake, was performed by the SF Ballet at the San Francisco Opera House. He is an IEEE Fellow and Vice President of Technical Activities for the Robotics and Automation Society. His PhD is in Computer Science from Carnegie Mellon University; he and his students have published over 150 research papers and six US patents on robotics, automation, and geometric algorithms. He is editor of several books, including *The Robot in the Garden: Telerobotics and Telepistemology in the Age of the Internet* (MIT Press, 2000). Goldberg was awarded the National Science Foundation Young Investigator Award in 1994, the NSF Presidential Faculty Fellowship in 1995, the Joseph Engelberger Robotics Award in 2000, the IEEE Major Educational Innovation Award in 2001.

**Karl Böhringer**

Karl Böhringer is currently an associate professor in Electrical Engineering with adjunct appointments in Computer Science & Engineering and in Mechanical Engineering at the University of Washington, Seattle. He received both his M.S. and Ph.D. degrees in Computer Science from Cornell University and his Diplom-Informatiker degree from the University of Karlsruhe, Germany. During his dissertation work on distributed micromanipulation he designed, built, and tested multiple micro actuator arrays at the Cornell Nanofabrication Facility. He also spent a year as a visiting scholar at the Stanford Robotics Lab and Transducer Lab, where he collaborated on research in MEMS cilia arrays. From 1996 to 1998 he investigated techniques for parallel micro self-assembly as a postdoctoral researcher at the University of California, Berkeley. His current interests include micromanipulation and microassembly, as well as biomedical implants and bioMEMS for single-cell genomics and proteomics. At the University of Washington, he is a member of the Center for Nanotechnology and the NIH Microscale Life Sciences Center. His Ph.D. thesis was nominated for the ACM doctoral dissertation award. He received an NSF postdoctoral associateship in 1997, an NSF CAREER award in 1999, and was an NSF New Century Scholar in 2000. He received the 2004 Academic Early Career Award from the IEEE Robotics and Automation Society.

**READONLYMEMORIES (2003)**  
**Digital photographs by Grégory CHATONSKY**  
*Co-production numeriscausa and Festival @rt Outsiders / MEP*

**Grégory Chatonsky**

Born in 1971, he lives and works in Paris and Montreal. Grégory Chatonsky began developing digital tools in 1991. In 1994 he founded Incident.net, an artists' collective centred on the concept of accidents, computer bugs, unforeseeable events and networks. After studying fine arts and philosophy at the Sorbonne University from 1990 to 1996, he studied Multimedia at the Ecole Nationale Supérieure des Beaux Arts in 1999. Between 1995 and 1998 he created the CD-Rom *Mémoires de la déportation* (Memories of Deportation), with the help of former deportees, winning the Möbius prize. In 1997 he created the website for the Villa Médicis in Rome, followed by the site of the Centre Pompidou in 1999. In 2005 he designed the visual identity of the website for the Val de Marne region's Museum of Contemporary Art, MAC/VAL. He was Artist in Residence at the International Centre for Video Creation (CICV) from 1998 to 2001, at the C3 Foundation in Budapest and the Society for Arts and Technology (SAT) in 2001, at the Abbaye de Fontevraud and Villa Médicis hors les murs in 2002 and at the Fresnoy, National Studio of Contemporary Art from 2003 to 2004, where he also taught during the same period. He is currently a professor at the School of Visual and Media Arts (EAVM), which is part of the University of Quebec in Montreal (UQAM). Grégory Chatonsky's work has been exhibited in France, the USA, Canada, Spain, Portugal, Germany, Switzerland, Korea, Mexico, Brazil and Russia. In 2006 he created a work of variable fiction for Arte Cinéma. Winner at the 2002 - 2003 Inclassables awards in Montréal, he has also won various prizes in France and elsewhere, such as the SACD (Société des auteurs et compositeurs dramatiques - Society for Dramatic Authors and Composers) (2000), FilmWinter (2001), Sound Space (2001), Computer Space (2001), Viper (2001), Vidéoformes (2003), SCAM (2004), and E-toiles d'or (2006). An interdisciplinary artist, he deals with issues such as the aesthetics of flux, variable fiction and the evolution of relationships between the private and public spheres.

## **NANOMANDALA (2003)**

**Multimedia Installation by Victoria VESNA in collaboration with James GIMZEWSKI.**

### Victoria Vesna

Victoria Vesna is a media artist, professor and chair of the department of Design | Media Arts at the UCLA School of the Arts. She is also director of the recently established UCLA Art | Sci center and the UC Digital Arts Research Network. Her work can be defined as experimental creative research that resides between disciplines and technologies. She explores how communication technologies affect collective behavior and how perceptions of identity shift in relation to scientific innovation. In her most recent installations she is concerned with the environment - *Mood Swings* deals with the environmental effects on mental health and was exhibited in University of Washington, in a festival in Berlin and Castellon, Spain. *Water Bowls* aims to raise consciousness around the issues of pollution of our global life source and was exhibited in Beijing, Los Angeles and is currently at the Laboral gallery in Gijon, Spain. Other notable works are : *Bodies INCorporated*, *Datamining Bodies*, *nOtime* and *Cellular Trans\_Actions*.

Victoria has exhibited her work in 18 solo exhibitions, over 70 group shows. She has published 20 papers and gave a 100 invited talks in the last decade. She is recipient of many grants, commissions and awards, including the Oscar Signorini award for best net artwork in 1998 and the Cine Golden Eagle for best scientific documentary in 1986. She is the North American editor of *AI and Society* and editor of *Database Aesthetics* to be published by Minnesota Press in August, 2007.

### James Gimzewski

Dr. Gimzewski is a Professor of Chemistry at the University of California, Los Angeles and member of the California NanoSystems Institute. Prior to joining the UCLA faculty, he was a group leader at IBM Zurich Research Laboratory, where he research in nanoscale science and technology for over 18 years. Dr. Gimzewski pioneered research on mechanical and electrical contacts with single atoms and molecules using scanning tunneling microscopy (STM) and was one of the first persons to image molecules with STM.

His current interests are in the nanomechanics of cells and bacteria where he collaborates with the UCLA Medical and Dental Schools. He is involved in projects that range from the operation of X-rays, ions and nuclear fusion using pyroelectric crystals, direct deposition of carbon nanotubes and single molecule DNA profiling.

Dr. Gimzewski started collaborations with artist Victoria Vesna in 2001. Together, they have created installations that have been exhibited in NY, LA, China, Spain, Italy, Croatia and Singapore. Notably, *Nano* was a 1000 m<sub>2</sub> installation at LACMA in 2002.

## **NANO-SCAPE (2002)**

**An invisible interactive sculpture by Christa SOMMERER and Laurent MIGNONNEAU**

### Christa Sommerer et Laurent Mignonneau

Christa Sommerer and Laurent Mignonneau are internationally renowned media artists and researchers. They have jointly created around 20 interactive artworks, which have been shown in around 200 exhibitions world-wide and are installed in media museums and media collections around the world, including the Van Gogh Museum in Amsterdam, the Museum of Science and Industries in Tokyo, the Media Museum of the ZKM in Karlsruhe, the Cartier Foundation in Paris, the Ars Electronica Center in Linz, the NTT-ICC Museum in Tokyo, the NTT Plan-Net in Nagoya, Japan, the Shiroishi Multimedia Art Center in Shiroishi, Japan, the HOUSE-OF-SHISEIDO in Tokyo and the ITAU CULTURAL Foundation in Sao Paulo.

Mignonneau and Sommerer's interactive artworks have been called "epoch making" (Toshiharu Itoh, NTT-ICC museum Tokyo) for developing natural and intuitive interfaces and for often applying scientific principles such as artificial life, complexity and generative systems to their innovative interface designs. They have won mayor international media awards, among others the "Golden Nica" Prix Ars Electronica Award for Interactive Art 1994 (Linz, Austria).

Mignonneau and Sommerer published on Artificial Life, Complexity, interactivity and interface design and they lectured extensively at universities, international conferences, and symposia. They have worked as researchers and professors at ATR Research Labs in Kyoto Japan and at IAMAS in Ogaki Japan for 10 years and are currently heading the department for Interface Cultures at the University of Art and Design in Linz Austria which specializes on interactive art, interactive media and interface design.

## **NOX MATER - Study for muons and silence (2007)**

### **Electro-acoustic installation**

**by Lorella ABENAVOLI and Nicolas REEVES**

#### Lorella Abenavoli

Born on 22 March 1966 in Paris, France, where she has lived and worked since 1997.

She is an electro-acoustic sculptor and has taught environmental design and spatial arts at a Paris high school since 2000. She began her studies in 1987 at the Douai School of Fine Arts as part of an experimental teaching programme introducing students to art, science and digital technology. This is where she laid the foundations for her work, based on the idea that all matter contains energy and that sculpture is the act through which this energy becomes discernable. After graduating from the Rennes School of Fine Arts in 1992, she began a series of works using the dynamic properties of matter, before directing her research towards the exploration of sound material.

In 1996 she completed *Le Souffle de la terre* (Breath of the Earth), a work that makes the earth's infrabass vibrations audible to the human ear, created in conjunction with the Compiègne University of Technology and the Paris Institute of Earth Physics. She was artist in residence at the Fresnoy, National Studio of Contemporary Art from 2003 - 2004, where she created the first real-time model of *Le Souffle de la terre*, before being invited to Ircam (Institute for the Research and Coordination of Acoustics/Music in Paris) as part of the international Resonances festival in 2004. This work was widely covered by the media. In the autumn of 2006 she completed a new work called *Le Songe de Prométhée* (the Dream of Prometheus), a sound installation playing with human breathing, which was commissioned by the National Choreography Centre in Tours.

Lorella Abenavoli now divides her working life between France and Canada, creating numerous sound sculptures that unveil the rhythms of trees, stars, the body and the cosmos.

#### Nicolas Reeves

Born in Ithaca, NY, USA in 1957.

Nicolas Reeves is a professor at the School of Design at the University of Quebec in Montreal (UQAM), where he has run the NXI GESTATIO design lab for architectural and computer research and creation since 1995. Previously Artificial Life and Robotic Arts Research Director at the Hexagram Institute for Research and Creation in Media Arts and Technologies, he is now the Scientific Director of the same institute.

He has studied both Physics (University of Montreal, 1985) and Architecture (MIT, Cambridge, 1988), which enables him combine architecture, art and design with the intensive use of bioclimatic, scientific and IT data. He was admitted to the Quebec Order of Architects with honours in 1992.

His artistic approach questions the foundations of the concepts of order, information and organisation. He has developed a creative research project on the potential of computer science in formal genesis, using ideas of digital cross-breeding, emerging structures and artificial life. He won first prize at the Architecture Quebec competition in 1994 and is the recipient of several grants. He is also a regular jury member for Canadian artistic councils and regularly contributes to various art reviews. His *Cloud Harp*, a meteorological-electronic instrument converting cloud shapes into audio and musical sequences in real time, has received international media coverage.

He works in conjunction with a number of artists (involved in architecture, music, media arts and design) and with several international university research laboratories in the field of robotics and artificial life. He has presented installations and conferences in around ten countries across four continents.



## **SEMICONDUCTOR - Videos and performances.**

### **Semiconductor : Ruth Jarman et Joseph Gerhardt founded in 1997**

Semiconductor makes Sound Films which reveal our physical world in flux; cities in motion, shifting landscapes and systems in chaos.

Since 1999 UK artists Ruth Jarman and Joseph Gerhardt have been exploring many processes of digital animation to produce experimental films and live animation. Central to these works is the role of sound, which becomes synonymous with the image, as it creates, controls and deciphers it; exploring resonance, through the natural order of things . Finely crafted digital work is combined with analogue processes that tailor the randomness and errors within computer systems as co-conspirator.

Semiconductor have recently returned to Brighton, UK since completing a series of fellowships at : The NASA Space Sciences Laboratories, UC Berkeley, California US, Berwick Gymnasium Fellowship, Berwick-Upon-Tweed UK and Couvent des Récollets, Paris.

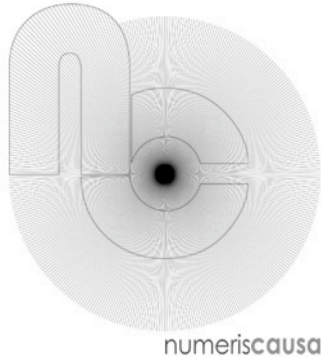
Past and future exhibitions include : Venice Biennale, Prague Contemporary Art Festival, ICA London, San Francisco International Film Festival, Careof Gallery Milan, Emaf Osnabruck, and Beaconsfield Gallery London. They are currently developing a UK touring exhibition of work made during their Space Sciences fellowship and have recently released a new DVD, *Worlds in Flux* with Fat Cat records.

### **MICROGRAM(S ) (2007) Interactive Installation by Thierry CODUYS based on the work of Robert WALSER**

#### **Thierry Coduys**

Thierry Coduys is a versatile artist, musician and multiform creator who keeps a constant lookout for new technologies.

Since 1986, Thierry Coduys has produced numerous works and concerts in conjunction with the avant-garde of contemporary music, creating electro acoustic and computerised tools. After several years at IRCAM (Institute for the Research and Coordination of Acoustics/Music), he became Luciano Berio's assistant. These various experiences led him in 1999 to found La kitchen, an artistic and technological platform and a place for research and artistic creation. Thierry Coduys is involved in all fields of creation - music, video, dance, networks, technology and research. He is currently assistant to Pascal Dusapin and Ivan Fedele and since 2002 has been developing, along with his team, an interactive software programme called IanniX, inspired by Iannis Xenakis' UPIC programme.



numeriscausa

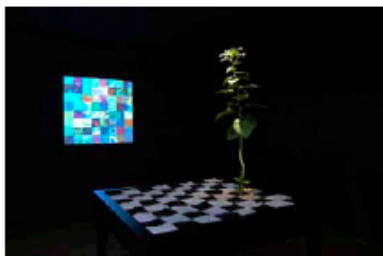
numeriscausa is firstly a gallery focusing on digital arts.

This project was born two years ago, believing that digital arts, though stammering and often fascinated by avant-garde experiments or new technologies, had to face contemporary art both from the point of view of critics, audience and institutions and that of market and collectors. Two issues are at stake: enlarging the diffusion of these works and proving that the so-called digital arts have achieved maturity.

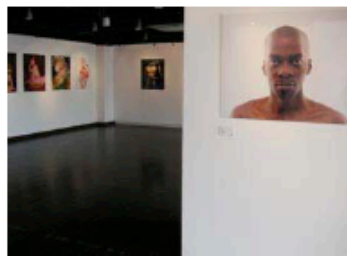
To respond to this aim, numeriscausa has decided to commit themselves to the mission of helping artists in creating and spreading their works in France as well as on the international scene.

Thus, we propose turn-key exhibitions targeting cultural institutions, patronage and art foundations along with the coproductions both of artworks and events (involving art centers, festivals, fairs...); we also directly promote artists (through calls for proposals, distribution...).

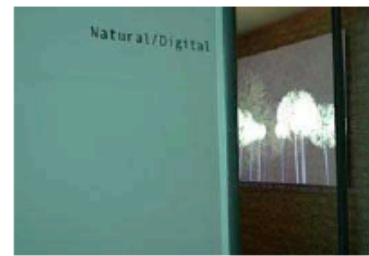
Finally, we wish to create new synergies between technical and artistic competences with the aim of making the most of the new hybrid domain of digital arts, design and architecture.



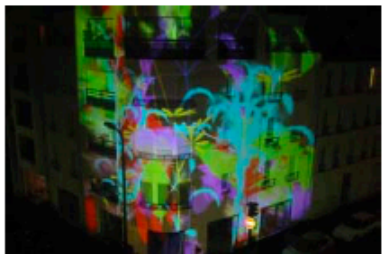
Move 36 - Eduardo Kac



Beauty By



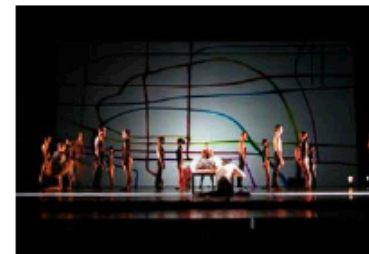
Natural / Digital



Nuit Blanche - Miguel Chevalier  
Surnatures



Festival Arborescence 05  
Reynald Drouhin - Des fleurs



Lolita - Music2eye & B. Michel  
Grand Théâtre de Genève

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