

*mutamorphosis:*





# challenging arts and sciences

MutaMorphosis is an international conference that brings together artists, interdisciplinary researchers, scientists and creative technologists, in order to focus on the growing interest within the worlds of arts and sciences in extreme and hostile environments. The topics of the conference include Limits of Organic Life, Extreme Bodies in Extreme Spaces, Art and Climate, Eco Sonifications, Perspectives on Nano Art, and many more. MutaMorphosis conference is part of the Leonardo 40th anniversary celebrations.

*“We are obsessed with discovering and surveying unknown environments, with the vertigo produced by limitless expanses, willing to explore outer space and ready to set out and conquer infinitesimal nanometric worlds.”* — Louis Bec, We Are Extremophiles

*“Industry animals, transgenic insects, semi-humans and genetically modified plants may be foreign species brought forth from technology but are they seductive enough for us to want to live with them for generations to come?”* — Adam Zaretsky, On Mutaphobia

Municipal Library

8. 11. 2007 – 10. 11. 2007

<http://mutamorphosis.org>



The members of the Steering Committee — Alban Asselin, Louis Bec, Annick Bureau, Don Foresta, Denisa Kera, Roger F. Malina (co-chair), Louise Poissant, Pavel Sedlák (co-chair), and Pavel Smetana — would like to thank all members of the Honorary Panel — Rudolf Arnheim, Herbert Franke, Ivan M. Havel, Vera Molnar, Frank Popper, Sonya Rapoport, Jasia Reichardt, Itsuo Sakane, Sonia Sheridan, Steina & Woody Vasulka — as well as the members of the Advisory Committee — Lorella Abenavoli, Marc Battier, Nina Czegledy, Ricardo Dal Farra, Alain Depocas, Hans Diebner, Michele Emmer, Machiko Kusahara, Lubica Lacinova, Michael Punt, and Nicolas Reeves — for all the efforts towards the success of the MutaMorphosis conference.



## PLENARY SPEAKERS

### Roy Ascott

#### Terror Incognito: Steps toward an Extremity of Mind

Roy Ascott is the Professor of Technoetic Arts, President of the Planetary Collegium, University of Plymouth, and Visiting Professor, Design|Media Arts, UCLA. Formerly: Dean of San Francisco Art Institute; Professor for Communications Theory, University of Applied Arts, Vienna; President of Ontario College of Art. Exhibited at the Venice Biennale, Ars Electronica Linz, Milan Triennale, Biennale do Mercosul, Brazil, European Media Festival, and Electra Paris, Founding editor of Technoetic Arts. He has advised media art organisations in Europe, Australia, Brazil, Canada, China, Japan, Korea and the USA, as well as the CEC and UNESCO. He convenes the annual Consciousness Reframed conferences.

<http://www.planetary-collegium.net>



### Albert-László Barabási

#### The Architecture of Complexity

Albert-László Barabási is the Distinguished University Professor of Physics at Northeastern University, and directs the Center for Complex Network Research. He is also a member of the Center for Cancer Systems Biology at the Dana Farber Cancer Institute, Harvard University. Born in Transylvania, and educated in Bucharest and Budapest, he received a Ph.D. in Physics in 1994 from Boston University. His research has

lead to the discovery and understanding of scale-free networks, capturing the structure of many complex networks in technology and nature, from the World Wide Web to the cell. His current research focuses on applying the concepts developed by his group for characterizing the topology of the www and the Internet to uncovering the structural and topological properties of complex metabolic and genetic networks. He is a Fellow of the American Physical Society, an external member of the Hungarian Academy of Sciences, and a foreign member of Academiae Europaea. He is the recipient of the 2005 FEBS Annual Award for Systems Biology and the 2006 van Neuman Prize for Computer Science. His recent general audience book entitled *Linked: The New Science of Networks* (Perseus, 2002) is currently available in 11 languages.

<http://www.nd.edu/~alb>.



### **Louis Bec** **We Are Extremophiles**

For several decades, Bec's artistic work has revolved around the interlocking of art and science. He became known through his efforts related to extending biological evolution and simulating new life forms, emphasizing in particular how these could bring forth evolution. His search for new zoomorphic types and forms of communication between artificial and natural species led to his founding a fictitious institute named *Scientifique de Recherche Paranaturaliste*, with Louis Bec as its presiding director. He was first introduced to artistic research on artificial life through



his collaborating with the philosopher Vilém Flusser, who wrote about Bec's "Vampyrotheus infernalis" in his book of the same name.

### **Václav Cílek** **Climate as the Last Wilderness**

Senior geologist at the Institute of Geology, Czech Academy of Sciences, he studied at the Mining Institute and Faculty of Natural Sciences of Charles University. He became involved in a study of hydrothermal deposits, later he studied samples brought from Moon by Russian satellites, and then he has focused some twenty years ago on climate change and environmental issues. He combines the knowledge of humanities with natural sciences. He is the author of approx. 400 scientific topics and several books including the award winning "Inscapes and landscapes; Makom book of places".



### **James Crutchfield & David Dunn** **Insects, Trees, and Climate: The Bioacoustic Ecology of Deforestation and Entomogenic Climate Change**

Jim Crutchfield is a Professor of Physics at the University of California, Davis. Until recently he was Research Professor at the Santa Fe Institute. Before coming to SFI, he was a Research Physicist in the Physics Department at UC, Berkeley. Crutchfield has worked in the fields of nonlinear dynamics, solid-state physics, astrophysics, fluid mechanics, critical

phenomena and phase transitions, chaos, and pattern formation. Current research interests center on computational mechanics, physics of complexity, statistical inference for nonlinear processes, genetic algorithms, evolutionary theory, machine learning, distributed intelligence, and quantum computation. He has published over 100 papers in these areas.

<http://cse.ucdavis.edu/~chaos/>



Composer David Dunn has worked in a wide variety of audio media inclusive of traditional and experimental music, installations for public exhibitions, video and film soundtracks, radio broadcasts, and bioacoustic research. He is President and Program Director of the Art and Science Laboratory and President of the Acoustic Ecology Institute, both in Santa Fe, New Mexico. His compositions and wildlife sound recordings have appeared in hundreds of international forums, concerts, broadcasts, and exhibitions. Besides his multiple books, recordings and soundtracks, he has been anthologized in over 50 journals and books. Dunn was the recipient of the prestigious Alpert Award for Music in 2005.

<http://www.daviddunn.com/~david/>



## Roger F. Malina

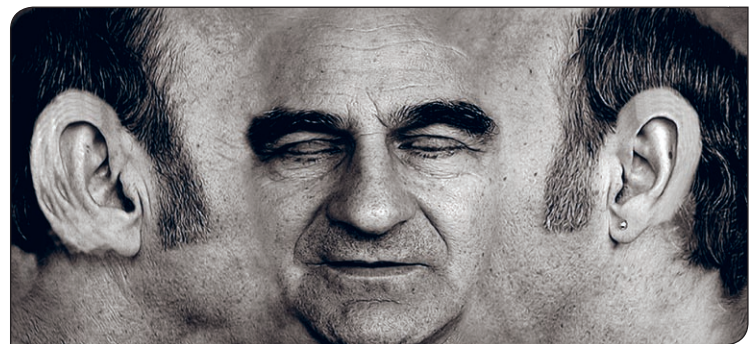
**Limits of Cognition:  
Artists in the Dark Universe**

Roger F. Malina is a space scientist and astronomer, with a specialty in space instrumentation and optics. Previously he was Director of the NASA EUVE Observatory at the University of California, Berkeley, and more recently director

of the Laboratoire d'Astrophysique de Marseille CNRS. He currently serves on the Comite National of the French CNRS for astronomy and on the French National Commission on Cosmology. His current research interests are in observational cosmology and the SNAP Consortium project for a space observatory dedicated to elucidating the nature of dark energy and dark matter. He is Chairman of the Board of Leonardo/International Society for the Arts/Sciences and Technology in San Francisco and President of the sister Association Leonardo in Paris. These organizations are dedicated to creating links between artists, scientists and engineers.

## Stelarc

**Alternate Anatomical Architectures:  
Extruded, Empty and Absent Bodies**



### Skin for Prosthetic Head

Image: Barrett Fox

Stelarc is an Australian artist who has performed extensively in Japan, Europe and the USA- including new music, dance festivals and experimental theatre. He has used medical instruments, prosthetics, robotics, Virtual Reality systems and the Internet to explore alternate, intimate and involuntary interfaces with the body. He has performed with a THIRD HAND, a VIRTUAL ARM,

a VIRTUAL BODY and a STOMACH SCULPTURE. He has acoustically and visually probed the body—having amplified brainwaves, blood-flow and muscle signals and filmed the inside of his lungs, stomach and colon, approximately two metres of internal space. He has done twenty-five body SUSPENSIONS with insertions into the skin, in different positions and varying situations in private gallery spaces and in remote locations. In 1995 Stelarc received a three year Fellowship from The Visual Arts/ Craft Board, The Australia Council and in 2004 was awarded a two year New Media Arts Fellowship. In 1997 he was appointed Honorary Professor of Art and Robotics at Carnegie Mellon University, Pittsburgh. He was Artist-In-Residence for Hamburg City in 1998. In 2000 he was awarded an Honorary Degree of Laws by Monash University. He has completed Visiting Artist positions in Art and Technology, at the Faculty of Art and Design at Ohio State University in Columbus in 2002, 2003 & 2004. He has been Principal Research Fellow in the Performance Arts Digital Research Unit and a Visiting Professor at The Nottingham Trent University, UK. He has recently been appointed as Chair in Performance Art, School of Arts, Brunel University, Uxbridge, UK and Senior Research Fellow at the MARCS Lab at the University of Western Sydney, Australia. His art is represented by the Sherman Galleries in Sydney.



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## Victoria Vesna & James Gimzewski

**Blue Morph:  
Surges of Nanocellular  
Transformations**

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. Victoria has exhibited her work in 18 solo exhibitions, over 70 group shows, published 20+ papers and gave 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.

James Gimzewski pioneered research on electrical contact with single atoms and molecules, light emission and molecular imaging using STM. His current interests are in the Nanoarchitectonics of molecular systems and cells with applications for nanomedicine. Recently, he has undertaken groundbreaking research in an entirely new field of biophysics, which he calls sonocytology of living cells. In 2005 he published the most downloaded paper in Nature on a pocket sized nuclear fusion device. Gimzewski received the 1997 Feynman Prize in Nanotechnology, the 1997 The Discover Award for Emerging Fields, the 1998' Wired 25' Award from Wired magazine and the Institute of Physics "Duddell" 2001 prize and medal for his work in nanoscale science. He holds two IBM "Outstanding Innovation Awards".

*<http://artsci.ucla.edu/BlueMorph/>*

## MAIN SESSIONS

**Limits of Organic Life****Bakke, Monika:** Zoe-philia and the Predicament of Anthropocentrism**Rogers, Kathleen:** Bacteria, Geology and Blood**Smith, Brad:** Ascribing Status to Life Forms**Roosth, Sophia:** Zeroing Out Biological Time: Standardization and Surprise in Synthetic Biology**Seaman, Bill:** Neo-sentience: Positive Techno-evolution or Extreme, Hostile Takeover Environment?**Exo-Botany****Xiao, Leon Yongliang:** Extending Human Life with Digital Art Forms**Kuzmanovic, Maja / Gaffney, Nik:** groWorld**Boland, Howard / Cinti, Laura:** The Martian Rose**Mutations and Metamorphoses****van Rijsingen, Miriam:** Prolific Encounters: towards a Philosophy of Mutability**Willet, Jennifer / Bailey, Shawn:** BIOTEKNICA: A Mutation Model for Teratological Art**Valdes Claudia X. / Thurtle, Phillip:** From Spiderman to Alba: Transgenics in a Post-nuclear World**Zaretsky, Adam:** On Mutaphobia**Extreme Bodies in Extreme Spaces****Horáková, Jana:** Performing Spaces for Cybernetics Organisms**Beloff, Laura:** Wunderkammer: Wearables as an Artistic Strategy**Ryan, Susan Elizabeth:** Dress for Stress: Wearable Technology and the Social Body**Pell, Sarah Jane:** Hydromedusa: Aqueous Architectures for Use in WET Spaces**Perspectives on Nano Art****Punt, Michael:** Between Thought and Matter: the Final Frontier**Vennard, Linda:** From Imaging to Imagining: What Is Man Communicating about Himself through Nano-Art?**Thomas, Paul:** Boundaryless Nanomorphologies**Stein, Suzanne:** Foresighting for Meaningful Innovation**Inner & Outer Spaces****Krueger, Ted:** Mediated Perception**Osaka, Takuro:** Artistic Proposals on the Cultural Application of JEM - 2009 ISS Art Experiment Program**Triscott, Nicola:** The Arts Catalyst**Phillips, Mike:** Normal to an Abnormal Degree**Tetsuro, Fukuhara:** Space Dance in the Tube, Experience and Expression**Creative Autonomy****Joyce, Michael:** Poem as Written Word at Boundary Condition**Grond, Florian:** From Reality to a Line and Back, a Little Theory of Everything**Brown, Paul:** The DrawBots**Goodman, Lizbeth / Duffy, Brian / Sudol, Jeremi / Price, Marc et al.:** TRUST: Robotics and Haptics for Extreme Interaction and Universal Design**Goto, Suguru:** Virtual Musical Instrument and RoboticMusic**Art & Climate****Ferran, Bronac / Ratto, Matt:** Artists and Scientists as Extremophiles: Extreme Environments and Ecology**Santaella, Lucia / Garcia, Wagner:** Cognitus: New Cognitive Tools to Assess Environmental Risks in Amazonas**Chapple, Boo:** Bodies of Water**Da Costa, Beatriz:** PigeonBlog: Interspecies Co-production in the Pursuit of Resistant Action

### Limits of Adaptation

**Fischer, Hervé:** Law of Divergence and Mythoanalysis of Limits

**Schlacht, Irene:** Art, Design and Human Metamorphosis in Extreme Environments

**Jorgensen, Jesper:** Restricted Sensory Stimulation: A Challenge and a Risk for Humans in Extreme Environments?

**Chardonnet, Ewen:** Dissemination and the Becoming-World of the Laboratory

### Eco Sonifications

**Polli, Andrea:** Sonic Interpretation and Experience of Extreme Events and Environments

**Harris, Yolande:** Taking Soundings: a Sound-Artists Investigation into Technologies of Coastal Navigation

**Cusack, Peter:** Sounds from Dangerous Places

**Young, Michael / Adderley, W. Paul:** Here Is Now and There Is the Sound of the Land: Scientific and Sonic Perceptions of the African Sahel

**Diennet, Jacques / Calvet, David / Kronland, Richard / Voinier, Thierry / Vallée, Claude:** The COSMOPHONE: Playing with PARTICLES, the COSMOS and SOUNDS

### Visual Study of Culture, Nature & Universe

**Blassnigg, Martha:** Imaging the Extreme

**Rossi, Michael Paul:** Kitsch and the Meaning(s) of Life

**Mayeri, Rachel:** Primate Cinema

**O'Neill, Rob:** The Morphology Project: Art-Science Explorations of Biological Shape Analysis and Evolution

**Hessels, Scott:** The Machines above us: an Overview of the 'Celestial Mechanics' New Media Artwork

### Mind Reloaded

**Drayson, Hannah:** Embarking upon the Colonization of Transcendental Space; Gestalt Biometrics

**Clark, Tim:** Massive Multiplayer Online Games and Anthropoc Bias: The Role Game Creators, Possible "Life" World Scenario's, and the Doomsday Argument

**Doruff, Sher:** Extreme Intervals and Sensory Fusions

**Ingham, Karen:** The Inverted Eye: a Transdisciplinary Gaze into the Dysfunctional Mind

**Kliková, Alice:** Limits of Biohermeneutics

### Bodies & Devices

**Kusahara, Machiko:** Externalizing Our Body: Device Art and Its Experimental Nature

**Kriesche, Richard:** Defragmentation

**Daubner, Ernestine:** Art, (bio)technologies & (dis)abilities: Challenges of an Expanding Body/Mind

**Donegan, Mick / Goodman, Lizbeth / Kennedy, Helen / Palmer-Brown, Dominic / Zhang, Li:** InterFACES: Affective Interactive Virtual Learning Environments for People with Cognitive & Physical Disabilities

**Kisseleva, Olga:** From World WideVip to TUTOR

### Extending Memory, Expanding Life

**Diebner, Hans H.:** Cultural Evolution and the Internet – A Critical Approach

**Germen, Murat / Ayiter, Elif:** Looking Aside: Collective Constructs, Autarchic Assemblage

**Endo, Takumi:** Phonethica

**Sau Bin, Yap:** Mapping Art Spaces: An Artist's Quest to Chart History

### Inside & Outside: from Perception to Immunity

**Lambert, Hervé-Pierre:** Neuroesthetics, Neurological Disorders and Creativity

**Harrison, Dew / Rauch, Barbara:** The Art of Creating Moments of Stillness in a Volatile World

**Novakovic, Gordana:** Metropolis: an Extreme and Hostile Environment

# ciant

*international centre for art and new technologies in prague*

## Lab

Collaboration - Experimentation - Creation

## Residencies

International mobility programme for artists and researchers

## Gallery

Exhibitions

## Festival

A platform for the interaction of arts, sciences and new technologies

## Art Events

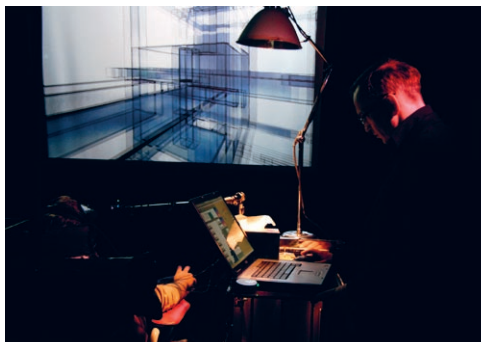
Performances - Screenings

## Training

Workshops

## Theory

Conferences - Lectures - Publications



*Relax, it is only the future.*

— The Prague Post

*Inventive use of new technology is capable to liberate us from a fear of technology.*

— BBC Czech



*Let the robots dance!*

— Respekt

*Casting the iconoclasts*

— Liberation



You can reach us best via [info@ciant.cz](mailto:info@ciant.cz).

Postal address: Kubelíkova 27, 130 00 Prague, Czech Republic

## organizers

### **CIANT – Interantional Centre for Art and New Technologies** | [www.ciant.cz](http://www.ciant.cz)

Since 1998 CIANT has supported interaction of arts, sciences and new technologies. It is an independent organisation with non-profit and non-governmental status. Located in Prague, Czech Republic, the city of Golem, Čapek's robot, Kino-automat and Laterna Magika, CIANT runs a gallery and an art laboratory with residency programme, organises cultural and educational events, the ENTER festival and more... Operating locally and internationally CIANT is a platform for interdisciplinary collaboration that fosters cultural diversity and innovation.

### **C2C – Circle of Curators and Critics** | [www.c2c.cz](http://www.c2c.cz)

The mission of C2C is to animate and mediate to the public an interdisciplinary discussion in the domain of contemporary visual art and culture. Its focus is on exhibitions, lectures and projects of groups of artists, scientists, media theorists and curators. It supports cooperation among curators, critics, artists as well as institutions in the Czech Republic and abroad and initiates cultural, educational, and research projects, including exhibitions and publications that foster critical interest in visual art and the discussion about its advancement.

### **HEXAGRAM – Institute for Rresearch/Creation in Media Arts and Technology** | [www.hexagram.org](http://www.hexagram.org)

The contribution of the creator/researchers to innovation in the media arts, science and technology is at the heart of Hexagram. Regrouping a network of 79 senior creator/researchers in four Canadian universities: Concordia University, l'Université du Québec à Montréal, McGill University and l'Université de Montréal, Hexagram trains 350 Master, Doctorat and Post Doctorat students who collaborate on its research/creation projects in the following fields: Emerging Cinema / Virtual Characters, Virtual Reality and Virtual Communities / Immersive Environments / Interactive textiles and Wearable Computers / Interactive Performance and Sound / Interactive Television / Artificial Life and Robotic Arts / New forms of Narrative and Audio/Video practices / Gaming.

### **LEONARDO** | [www.leonardo.info](http://www.leonardo.info)

Leonardo began in 1968, and has continued for 40 years with the goal of promoting the interaction of the arts, sciences and technology. Leonardo has published

over 6000 texts by artists who work with science and technology, as well as scientists and scholars. The International Society for the Arts, Sciences and Technology was founded in 1982 to further the aims of Leonardo by providing avenues for art, science and technology collaboration. It serves the international art, science, and technology communities through its Prize and Awards, through its publications with MIT Press including Leonardo Journal, Leonardo Music Journal; the Leonardo Electronic Almanac, Leonardo Reviews, the Leonardo Book Series, and the Leonardo On-Line web site. We have a sister organization in France, the Association Leonardo, which publishes the Observatoire Leonardo (OLATS) Web Site. We organise networks and working groups such as the Leonardo Education Forum, The Leonardo Space Arts Working Group, The Lovely Weather Art and Climate Group, and YASMIN, a Mediterranean region network of artists, scientists and engineers.

### **Pépinières européennes pour jeunes artistes** | [www.art4eu.net](http://www.art4eu.net)

Over the last 16 years, we have propelled over 650 artists on to the international artistic scene within the context of 12 mobility programmes / Awarded over 650 prizes for artistic creation / Produced or co-produced around a 100 performing art shows, over 300 exhibitions of visual art and around 10 short films and animated films / Published 15 publications and co-produced some 200 brochures and artists' catalogues / Twoven a professional network reaching over 3000 people on the international cultural scene / Increased collaborations with public, private and media partners like Euronews and Arte / Facilitated the encounter with new European audiences thanks to the multiplicity of distribution methods.

### **SCART** | [www.scart.cz](http://www.scart.cz)

Society for Science and Art evolved in recent years from an informal gathering of artists, scientists and researchers from different disciplines (philosophy, classical languages, computer science, art history, mathematics, theoretical physics) to a fast growing non-profit organization based in Prague. ScArt is envisioned as a network of humans, technologies, institutions and ideas that interact and test the limits of cooperation. The main goal is to show new forms of convergences between men, society and inorganic entities and explore the future development of our hybrid world.

