SIMULATED_CERTAINTY

NEW FRONTIERS OF SCIENCE, ART AND THOUGHT

LA PEDRERA DE CAIXA CATALUNYA, 30 September 2009 / ARTS SANTA MÒNICA, 1 & 2 October 2009

Tina Gonsalves, Nadia Bianchi-Berthouze, Enric Rovira, Pere Castells **COMPUTING THE NATURAL** Janna Levin, Peter Weibel, Claudia Giannetti, Alex Arenas, Roderic Guigó, Llibert Fortuny **MULTIPLIED_REALITY** Derrick de Kerckhove, Mel Slater, Vicente Guallart, Laura Baigorri, Pau Alsina, Konic Thtr **THE_LIMITS_OF_FICTION** Louis Bec, Jordi José, Carlota Subirós, Francesc Torres, Antonio Acín, Joan Leandre, Josep Perelló, MareNostrum

SIMULATED CERTAINTY
MEETING NEW FRONTIERS OF SCIENCE, ART AND THOUGHT

La Pedrera de Caixa Catalunya, 30 September 2009
Arts Santa Mònica, 1 & 2 October 2009

_RTS S_NT_ MÒNIC_

CAIXA CATALUNYA
OBRA SOCIAL

SIMULATED CERTAINTY_____

The conference **SIMULATED CERTAINTY** explores the threshold between reality and imagination. Where does the scientific hypothesis start? Where does the confirmation of the theory begin? How does the contemplation of an art piece become an intimate experience? What mechanisms enable us to generate this awareness of a hidden reality? The advent of new technologies and of the web has heightened more and more the tension between fiction and reality. Artistic creation and scientific research both impose an interdisciplinary point of view.

Computing the Natural. Science uses powerful computers to reproduce virtually the various phenomena of nature. Computer simulations therefore provide schematic descriptions of the world with the aim to detect its mechanical foundations. Computers and technology have also become a new center of attention for the development of artistic creativity. New technical possibilities open for the arts while also building a critical view on new technology.

Multiplied Reality. The digital revolution has generated new worlds. We see a growing concern for this technology that is increasingly integrated, light, docile and adaptable to our body and our peculiarities. The performing arts are looking to interact in real time with a digital world whose feedback simultaneously influences and responds to the movement of the dancer or performer. The artist proposes the proximity and participation of the viewer. Meanwhile, the scientist studies the virtual contours of our psyche.

The Limits of Fiction. Fantasizing is immanent to human nature. To let the mind fly, to dream or imagine are even customary practices and, cognitively speaking, necessities. Fiction can awaken consciousness, attracting the attention of the viewer with metaphors or simplified messages. An intense friction takes place between the imagined and reality. Something convincing does not need to be real while phenomena that are absolutely fundamental to understand the universe can be very far from our own daily experience.

SIMULATED CERTAINTY_____

OPENING SESSION_____
Wednesday 30 September, afternoon. Auditori de la Pedrera

18.30 h   Welcome and presentation of the book *En ressonància* (previous edition)
19.00 h   **Tina Gonsalves** i **Nadia Bianchi-Berthouze**, *Chameleon Project*
20.00 h   Gastronomic Intervention. **Enric Rovira**, chocolatier, in collaboration with Pere Castells

COMPUTING THE NATURAL_____
Thursday 1 October, morning. Arts Santa Mònica. Sala d'actes i balcó

10.00 h   Musical Intervention. **Llibert Fortuny**, composer and saxophonist
10.30 h   **Janna Levin**, professor at the Department of Physics and Astronomy, Columbia University.
                     Author of *A Madman Dreams of Turing Machines*
11.30 h   **Peter Weibel**, director of the Zentrum für Kunst und Medientechnologie de Karlsruhe (ZKM)
12.45 h   **Microtalks: Claudia Giannetti**, **Alex Arenas**, **Roderic Guigó**

MULTIPLIED REALITY_____
Thursday 1 October, afternoon. Arts Santa Mònica. Sala d'actes i balcó

17.00 h   *Konic Thtr*, **Rosa Sánchez** and **Alain Baumann**
17.30 h   **Derrick de Kerckhove**, Director of the McLuhan Program in Culture & Technology, Full
                     Professor at the University of Toronto
18.45 h   **Microtalks: Pau Alsina, Laura Baigorri, Mel Slater, Vicente Guallart**

LIMITS OF THE FICTION _____
Friday 2 October, afternoon. Arts Santa Mònica. Sala d'actes i balcó

10:00 h   **Joan Leandre,** *In the name of Kernel*
10:30 h   **Louis Bec**, *zoosystematicien*
11:45 h   **Microtalks: Jordi José, Carlota Subirós, Antonio Acín, Francesc Torres**

CONCLUSIONS_____
Divendres 2 d'octubre, matí. Arts Santa Mònica. Sala d'actes

12:45 h   **Janna Levin**, **Peter Weibel**, **Derrick de Kerckhove**, **Louis Bec**
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16.30 h - 19.00 h **MareNostrum** and Barcelona Supercomputing Center
                     Guided visits last 30 minutes in groups of 30 people at a time, with reservation.

Edifici Torre Girona Building, Jordi Girona, 31. http://www.bsc.es

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Tina Gonsalves has spent the last decade exploring the intimacies and vulnerabilities of human emotions, creating numerous short films and mixed media and installation works. This highly acclaimed Australian artist is currently working with some of the world's leading practitioners of psychology, emotion and social neuroscience and emotion computing to investigate and produce moving-image artworks that respond to the spectator's emotional states. She is artist in residence at the Institute of Neurology at University College London, Brighton and Sussex Medical School, and at the Nokia Research Labs in Finland, and visiting artist at the Media Lab of Massachusetts Institute of Technology in Boston. Her most recent work, the *Chameleon Project*, explores emotional contagion is on show at the Natural History Museum, London, and Fabrica Gallery in Brighton.
http://www.tinagonsalves.com
http://www.portdouglasartistscottage.com
http://www.berlinartistapartment.com

Nadia Bianchi-Berthouze teaches at the UCL Interaction Centre, at University College London. Her research is premised on the idea that affect, emotion and subjective experience should be factored into the design of interactive technology. Indeed, for technology to be truly effective in our social network, it should be able to adapt to the affective needs of each user group or even each individual. The aim of her work is to create systems/software that can sense the affective state of their users and use that information to tailor the interaction process. She is currently pursuing three lines of research looking at body movement as a medium to induce, recognize and measure the quality of experience of humans and in particular of humans interacting and engaging through/with technology. In 2006 she was awarded a two-year International Marie Curie Reintegration Grant to pursue her researches in the clinical context and in the gaming industry.
http://www.uclic.ucl.ac.uk/people/n.berthouze

The Chameleon Project is an interactive art installation that responds to people's emotions. The project is a collaboration between Tina Gonsalves, neuroscientists Chris Frith, Bruno Averbeck and Hugo Critchley, affective computer scientists Ros Picard, Rana El Kaliouby from the MIT Media Lab and Nadia Berthouze from UCL's Interaction Centre and media arts curator Helen Sloan from SCAN.

Enric Rovira learnt the craft of pastry cook from his father and at master classes given by some of the great French and Spanish confectioners he most admires, and consolidated his training with visits to top bakeries in Paris, Milan and other European cities. He soon decided to specialize in the most sophisticated confectionery and working in chocolate, completely discarding the more traditional pastries and cakes. He has created a very special line of cakes that reflects his character, applying new techniques and decorative ideas that stem from his interest in art. The renown of these creations has brought invitations to teach classes in leading confectionery schools in Spain, France and Germany, and even to direct Spain's most important chocolate-making school. However, his passion for chocolate, bonbons, Easter cakes and innovative nougats has led him to turn his back on pastry and devote himself exclusively to the world of chocolate.
http://www.enricrovira.com

Pere Castells has a degree in chemistry from the Universitat de Barcelona. His extensive teaching experience has gained him a place in various research groups working on European educational projects. In 2003 he started working with the elBullitaller research team, and since 2004 he has run the culinary and scientific research department of the Alícia Foundation, where he applies science and technology to innovation in gastronomy. His research has focused on the study of textures, the introduction of technology into the kitchen and the popularizing of science in relation to food. He actively contributed to the book *Lèxic científic-gastronòmic* by the Alícia Foundation and elBullitaller (Planeta, 2006), which has been translated into five languages. 2007 saw the launch of the 'Rotaval', an adaptation of a laboratory rotary evaporator for use in the kitchen, the result of joint research by the Alícia Foundation and the Celler de Can Roca. He is a member of the ACCA board and a regular contributor to the journal *Investigación y ciencia*.
http://www.alicia.cat
http://www.alimentacioiciencia.org

Llibert Fortuny began playing the saxophone at the age of 11. Trained at the Conservatori de Música in Manresa, in 1997 he obtained a scholarship to study at the Berklee College of Music in Boston, where he had the opportunity to share the stage with musicians such as Chick Corea, the Greg Hopkins Band or the Boston Pops Orchestra. Back in Catalonia, soon became one of the outstanding young musicians on the jazz scene and one of the most sought after. He has played with a host of different musicians and bands, including Sonny Fortune, Rodrigo Gonçalves, Chano Dominguez, Manel Camp, Guillamino, Instint Animal, TGX, l'Orquestra de Cambra del Teatre Lliure and Connexió Argan, and led a number of groups: the Llibert Fortuny Quartet, with whom he recorded the album *Un Circ Sense Lleons* (2004); the Llibert Fortuny Electric Quartet (which swiftly grew to a quintet), with whom he recorded *Revolts* (2005) and *Double Step* (2007) and the Llibert Fortuny Elèctric Big Band XXL, with whom he has released an album and a DVD (2006). As a composer and a performer he likes to use a range of electronic effects such as filters, delays and pitch shifts. He has received, among others, the Associació de Músics de Jazz i Música Moderna de Catalunya's awards for Best Jazz Performer (2002) and Best Group of the Year (2005), the Puig Porret and the Circuit Ressons de Jazz prizes (2004) and the Premi Altaveu (2005).
http://www.llibertfortuny.com

Janna Levin teaches Physics and Astronomy at Barnard College at Columbia University. Her research focuses on the early universe, black holes and chaos. She worked at the Center for Particle Astrophysics (CfPA) at the University of California at Berkeley before moving to the UK where she worked at Cambridge University's Department of Applied Mathematics and Theoretical Physics. Before returning to New York she was the first scientist in residence at the Ruskin School of Fine Art and Drawing in Oxford, on a grant from the National Endowment for Science, Technology and Arts (NESTA). She is the author of the bestselling popular science book *How the Universe Got Its Spots: Diary of a Finite Time in a Finite Space* (Weidenfeld & Nicholson, 2002) and the novel *A Madman Dreams of Turing Machines* (Knopf, 2006), awarded the 2007 PEN/Robert Bingham Fellowship for Writers prize and the Mary Shelley Award for Outstanding Fictional Work. She has written for many artists and contributed to numerous radio and television programmes.
http://www.jannalevin.com
http://www.columbia.edu/cu/physics/facbios/Levin/faculty.html

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Peter Weibel, media theorist, curator and artist, studied medicine, literature, philosophy, film and mathematics in Paris and Vienna. His work, in which he uses a wide variety of materials, forms and techniques (text, sculpture, installation, film and video), can be placed in the following categories: conceptual art, performance art, experimental cinema, video art and computer art. In 1978 he turned to music and founded the group Morphila Hotel Orchester with Loys Egg. In the mid eighties he began to explore the possibilities of computer-aided video processing, and since the nineties has been creating interactive computer-based installations, again with a focus on the relationship between media and the construction of reality. He has published numerous articles and has lectured worldwide on contemporary art, media history and theory, film, video art and philosophy. As a theorist and curator he champions a form of art and art history that includes the history of technology and the history of science. As a university teacher and a curator and director of institutions such as Ars Electronica in Linz, the Institute for New Media in Frankfurt and the ZKM Centre for Art and Media in Karlsruhe he has been a major influence on the European computer art scene.
http://www.zkm.de

Claudia Giannetti is an exhibition curator, writer and theoretician whose researches are centred on contemporary art, especially media art and art-science-technology. She has a PhD in Aesthetics from the Universitat de Barcelona and has been director of the Associació de Cultura Contemporània L'Angelot and the Media Centre d'Art i Disseny (MECAD), both in Barcelona, and the Festival Internacional de Artes y Culturas Digitales de Gran Canaria. As a curator she has organized over a hundred exhibitions, conferences, symposiums and other events in museums and institutions in Spain and abroad. In 2008 she curated the Expanded Box section at ARCO, and the exhibition *The Discreet Charm of Technology*. *Arts in Spain* at the MEIAC in Badajoz, at the ZKM Centre for Art and Media in Karlsruhe, and at the Neue Galerie Graz. She has published several books, notably *Estética Digital: sintopía del arte, la ciencia y la tecnología* (ACC L'Angelot, 2002) and *La razón caprichosa en el siglo XXI: los avatares de la sociedad posindustrial y mediática* (Cabildo Insular de Gran Canaria, 2006).
http://www.artmetamedia.net

Àlex Arenas took his degree and PhD in Physics at the Universitat de Barcelona, specializing in statistical physics are applied to neural systems. In 1995 the Department of Engineering, IT and Mathematics at the Universitat Rovira i Virgili in Tarragona invited him to put together a multidisciplinary research group to study complexity and its applications. Since 2000 he has been working with the Department of Mathematics at the University of California at Berkeley on the optimal prediction project being developed by the Department of Energy at Lawrence Berkeley National Laboratory. He has published numerous research articles on the potential applications of statistical physics in fields as diverse as biology, economics and sociology. He currently leads the Physics and Computing group at the Universitat Rovira i Virgili.
http://deim.urv.cat/~aarenas

Roderic Guigó took his degree and PhD in Biology at the Universitat de Barcelona. On completing his doctorate in 1988 he moved to the United States, where he specialized in computational genomics with the Dana Farber Cancer Institute (Harvard University), Boston University and Los Alamos National Laboratory. In 1994 he returned to Barcelona, where he has worked at the Institut Municipal d'Investigació Mèdica and the Universitat de Barcelona. He is currently coordinator of the Biocomputing and Genomics programme at the Centre de Regulació Genòmica and Professor of Biocomputing at the Universitat Pompeu Fabra. He has been and is a participant in a number of international genomics projects, including the human genome project.
http://grib.imim.es
http://genome.imim.es/~rguigo

Rosa Sánchez, multidisciplinary multimedia artist, performer and choreographer, and **Alain Baumann**, musician, multimedia artist and researcher of new systems for producing sound, are the conceptual, creative and technological driving force of Kònic Thtr, a Barcelona-based platform dedicated to contemporary creativity at the interface between art, science and new technologies. Their activity focuses on the use of interactive technology in art projects in a variety of formats and media (installation, stage, audio-visual and sound), and their work has been shown in Europe and the United States. With links to universities and research centres in several countries, for more than two decades now Kònic Thtr's researches have been making important contributions to the field of contemporary creation. Rosa Sánchez is the artistic director of Kònic Thtr and Alain Baumann is responsible for developing interactive systems for use in the platform's projects.
http://www.koniclab.info

Derrick de Kerckhove, Director of the McLuhan Program in Culture and Technology, worked with Marshall McLuhan for over ten years as translator, assistant and co-author. With PhDs in French Language and Literature from the University of Toronto and in Sociology of Art from the Université de Tours, he holds chairs in the Department of French at the University of Toronto and in the Faculty of Sociology at the Università degli Studi di Napoli Federico II. Widely regarded as the great communication theorist of the 21st century, at present he is a Visiting Researcher at the Universitat Oberta de Catalunya (UOC) in Barcelona. He is a member of the Club of Rome and Papamarkou Chair in Technology and Education (Library of Congress, Washington DC). He is the author of numerous articles and his books have been translated into a dozen languages: *The Alphabet and the Brain* (1988), *La civilisation vidéo-chrétienne* (1990), *Brainframes: Technology, Mind and Business* (1991) *The Skin of Culture* (1995; Castilian trans. *La piel de la cultura: investigando la nueva realidad electrónica*, Gedisa, 1999), *Connective Intelligence* (1997; Castilian trans. *Inteligencias en conexión: hacia una sociedad de la Web*, Gedisa, 1999), *The Architecture of Intelligence* (2001) and *McLuhan for Managers* (2003).
http://www.utoronto.ca/mcluhan/derrickdekerckhove.htm

Mel Slater was appointed ICREA Research Professor at the Universitat Politècnica de Catalunya's Department of Computer Languages and Systems in July 2006. Though he is still an Associate Professor at the UPC, his ICREA contract was transferred to the Universitat de Barcelona's Department of Personality Evaluation and Psychological Treatment, where he co-leads the EVENT Lab (Experimental Virtual Environments for Neuroscience and Technology). He founded the Virtual Environments and Computer Graphics Group in the Department of Computer Science at University College London, where he continues to supervise PhD students and lead several projects. His work focuses on studying how people respond to experience in immersive virtual environments and associated technology in computer graphics and human-computer interaction, working with multidisciplinary teams of computer engineers, psychologists and neuroscientists, with the aim of understanding how and why people react to virtual reality, in order to improve it. He currently leads four major projects, three at the European level (PRESENCCIA, IMMERSENCE and MIMICS); the other, funded by the TV3 Marathon, deals with the application of virtual reality to the treatment of chronic pain.
http://www.eventlab.org

Vicente Guallart is an architect. Since 1989 he has carried out projects in Spain, Taiwan, Korea, Poland, Norway and Iran, among other countries. In 2000 he founded Guallart Architects, which undertakes projects on multiple scales, including master plans, housing, urban development and software, working with experts from various disciplines (sociologists, anthropologists, engineers, planners and media and software designers). He is the director of the Sociopolis project, an initiative to develop a new neighbourhood of 2,800 homes in Valencia. He is also working on new urban developments around Albacete and Motril, which incorporate new principles for promoting self-sufficient urban living, and since 2004 has remodelled the ports of Keelung, Batoutz and Fugee in Taiwan. He was awarded the Premi Ciutat de Barcelona for the Media House Project, which was selected for the Spanish pavilion at the Venice Architecture Biennale in 2000 and 2004 and for the 2006 exhibition *On Site: New Spanish Architecture* at the MoMA in New York. He is the author, among other books, of *Sociopolis: project for a city of the future* (Actar, 2004) and *Geologics: Geography, Information, Architecture* (Actar, 2009), and co-author of the *Metapolis Dictionary of Advanced Architecture* (Actar, 2002) and *HiCat HiperCatalunya. Territoris de recerca. Estats de referència* (2003), and editor of the volume *Self-sufficent Housing* (Actar, 2006).
http://www.guallart.com

Laura Baigorri, who teaches in the Faculty of Fine Arts at the Universitat de Barcelona, is also engaged in research, criticism and curating and in various internet-based projects, and has organized numerous seminars and exhibitions on art and new media. She curated the exhibitions *Homo Ludens Ludens* (2008) at the Laboral Centro de Arte y Creación Industrial in Gijón and *VIDEOARDE. Vídeo crítico en Latinoamérica y Caribe*, which is currently travelling to several Latin American cities (Mexico City, Montevideo, Quito, Buenos Aires, Cordoba and Rosario). She has published articles and essays on internet activism and art and video and game art, and the books *Vídeo. Primera etapa: el vídeo en el contexto social y artístico de los años 60/70* (Brumaria, 2004), which received the Premi a la Creació i Crítica d'Art 2005 de la Fundació Espais de Girona, *Net.art. Prácticas estéticas y políticas en la Red* (with Lourdes Cilleruelo, Edicions UB & Brumaria, 2006), *Vídeo en Latinoamérica. Una historia crítica* (AECID & Brumaria, 2008) and the university textbooks *El vídeo y las vanguardias históricas* (UB, 1997) i *Video Digital de Creación* (UOC, 2004).
http://www.interzona.org

Pau Alsina teaches Arts and Humanities at the Universitat Oberta de Catalunya, where he coordinates the Aesthetics and Theory of Art and Culture department. He is the director of the UOC's Artnodes space devoted to art, science and technology (ACT) and a research member of GRECS and of the MEC's R & D project on art, aesthetics and new media within the Internet Interdisciplinary Institute IN3. He was a co-founder of ACT's Mediterranean network, YASMIN, backed by UNESCO DigiArts Leonardo/ISAST, Olats, Artnodes/UOC and the University of Athens. He is a member of the editorial board of the Leonardo/International Society for the Arts, Sciences and Technology abstracts service LABS and editor of the Spanish version of the magazine. Among his published monographs are 'Art i Ciència' (2003), 'Heterotopies: Art, Tecnologia i Activisme' (2004, with Laura Baigorri), 'Calculabilitat: Art i Matemàtiques' (2005), 'Organicitats: Art, Biologia i Tecnologia' (2006) and 'Jugabilitat: Art, Cultura i Jocs' (2007) in *Artnodes Journal*. In 2007 Editorial UOC published his book *Arte, Ciencia y Tecnología*. His current research is centred on articulating an ontology of the present based on the creative practices that interrelate art, science and technology in the context of the Network Society.
http://www.uoc.edu/artnodes

Joan Leandre has been a member of the Arxius OVNI since 1994. Between 1994 and 1996 he worked on the media interruption (or continuity) series *MAP (Mega Assemble Project)*, *Fundación Zero* and *Serial Monuments* and between 1995 and 1997 on the project *Oigo Rom*; then, in 1998, he was involved in the *Archivos Presidente* affair. In 1999 he returned to working on mass entertainment software and launched the serial projects *retroyou (RC)* and *retroyou (nostalG)*, the long series *retroyou nostalg2* (still in progress) and the indefinitely delayed *Boot Profundo*. Other collaborative projects from this period include *Velvet Strike* (http://www.opensorcery.net/velvetstrike) with Brody Condon and Anne-Marie Schleiner and the *Archivos Babilonia* (http://desorg.org/babylon_25012005.php) with Abu Ali. He is currently in a state of suspension between various considerations, having heard the cry of the iron bird in its flight towards the automatic sunset… in the name of the Kernel!

Louis Bec is an artist and biologist and the world's only official zoosystemician. He has developed a fabulatory epistemology based on artificial and alternative life and technozoosemics, and interrogates the relationships between art, science and technology. In this field he has worked with the acclaimed philosopher Vilém Flusser, among others. In 1972 he founded the Institut de Recherche Scientifique Paranaturaliste, which he also directs, where he studies the inability of living beings to understand their own existence. Within his paranaturalistic research he has developed series of potential beings which he endows with chimerical and fictional characteristics. He has taken part in numerous exhibitions and conferences, and has directed events such as ART/COGNITION (Aix-en-Provence, 1992) and AVIGNONumérique (Avignon, 2000) and various Europe-wide projects (E-Galab, Locus, Alterne…). He is currently in charge of New Technologies at the French Ministry of Culture's Department of Artistic Creation (DAP). He was also one of the scientists involved in the artist Eduardo Kac's *GPF Bunny* project (2000), a transgenic artwork that included the creation of the fluorescent green rabbit Alba.

Jordi José is a Professor and deputy director of the Department of Physics and Nuclear Engineering at the Universitat Politècnica de Catalunya. With a PhD in Physics from the Universitat de Barcelona, he is a member of IEEC, the Catalan space studies institute, and has been visiting professor at the universities of Chicago, Pisa and North Carolina. He is a member of the editorial board of *The Open Astronomy Journal*. His research focuses on various aspects of stellar evolution, such as explosions of novas and supernovas, x-ray bursts, nucleosynthesis and meteorites. He is the author of more than a hundred research papers and has published in journals such as *Physical Review Letters*, *The Astrophysical Journal* and *Astronomy & Astrophysics*. He has also co-authored a number of popular science books, including *Física i ciència ficció* (Edicions UPC, 1994), *De King Kong a Einstein: la física en la ciencia ficción* (Ed. UPC, 2004), *Entre la por i l'esperança: percepció de la tecnociència en la literatura i el cinema* (Proa, 2002) and *Tiem(pos) modernos. Ensayos de tecnociencia y cine* (Equipo Sirius, 2007). He is also a regular contributor to the media, appearing on Radio Vitoria and writing the weekly 'Science Fiction' column in *El País* from 1998 to 2006; he currently presents the 'Ciència o ficció' section of the BTV programme *Einstein a la platja*. http://www.fen.upc.edu/users/jjose

Carlota Subirós is a theatre director and a member of the artistic board of the Teatre Lliure. In 1997 she was awarded the Extraordinary Prize of the Institut del Teatre. She took her degree in Italian Philology at the Universitat de Barcelona and won the Honour Prize in 2001. Of note among his recent productions are *L'oficiant del dol* (*The Designated Mourner*) (2003) and *Marie and Bruce* (2005) by Wallace Shawn, and *Nel mezzo del cammin di nostra vita*, a tribute to Franco di Francescantonio, *Amor Fe Esperança*, by Ödön von Horváth (2005); Shakespeare's *Othello* and Maxim Gorky's *Els estiuejants* (*Summerfolk*) (2006); *Après moi, le déluge* by Lluïsa Cunillé, and *King*, based on the novel by John Berger (2007); *Rodoreda. Un retrat imaginari*, exploring the life and work of Mercè Rodoreda, Doris Lessing's *Jugar amb un tigre* (*Play with a Tiger*) and Luigi Pirandello's *L'home de la flor a la boca* (2008). She has also worked as assistant director to Joan Ollé, Ariel Garcia Valdés, Franco di Francescantonio and Lluís Homar, and has translated plays by Neil LaBute, Jessica Goldberg, Luigi Pirandello, David Mamet, David Harrower and Harold Pinter.

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Francesc Torres is a multidisciplinary artist. He has lived and worked in Paris, Chicago, New York and Berlin, and in 2001 returned to Barcelona, where he lives at present. His multimedia works, many of them centred on the machinery of war and violence in a specific historical and cultural context, have been shown in some of the world's most important contemporary art museums, including the Whitney Museum of American Art and the MoMA in New York, the Carnegie Institute in Pittsburgh, the Los Angeles Museum of Contemporary Art, the Berlin Nationalgalerie, the Stedelijk Museum in Amsterdam, the Rudolfinum in Prague, the State Hermitage Museum in St. Petersburg, Massachusetts Institute of Technology, the Museo Nacional Centro de Arte Reina Sofía, the Museo Guggenheim in Bilbao, IVAM, the Fundació Joan Miró and the Centre d'Art Santa Mònica. In 2008 the MACBA presented the retrospective *Da capo*, with an extensive selection of his work since the late sixties; the exhibition was awarded the Generalitat de Catalunya's Premi Nacional d'Arts Visuals in July 2009.

Antonio Acin has degrees in Telecommunications Engineering from the Universitat Politècnica de Catalunya and in Physics from the Universitat de Barcelona, where he completed his PhD in Theoretical Physics in 2001. After a period of postdoctoral research at the University of Geneva he joined the ICFO Institute of Photonic Sciences in Castelldefels, where he has led the Quantum Information Theory group since 2003. He has recently been a Ramón y Cajal (2004-2006) and ICREA Junior (2006-2008) research fellow, and has been an ICREA Professor at ICFO since 2008. In addition, this year he was awarded the prestigious Starting Grant by the European Research Council. He has published some eighty articles in international journals.
http://www.icfo.es

MareNostrum. The Barcelona Supercomputing Centre — Centre Nacional de Supercomputació (BSC-CNS) is home to MareNostrum, one of the most powerful supercomputers in Europe, ranked 40th in the world on the TOP500 list in November 2008, with a calculation capacity of 62.63 teraflops and peaks of 94.21 teraflops (94.21 trillion operations per second). The Spanish government signed an agreement with IBM to build MareNostrum in March 2004, and the supercomputer was booted up for the first time on 12 April 2005. MareNostrum is located in the BSC-CNS, in the old Torre Girona chapel on the UPC campus in Barcelona, inside a glass enclosure measuring 9 x 18 x 5 m. Occupying an area of 160 m² and weighing 40,000 kg, MareNostrum is currently being used to research the human genome and the structure of proteins and to design new drugs, among many other projects. Since the spring of 2005 it has been available to the international scientific community, with access supervised by a steering committee, which assigns computing time on the basis of the work to be carried out.
http://www.bsc.es

Josep Perelló teaches in the Department of Fundamental Physics at the Universitat de Barcelona. With a PhD in Physics, he studies the dynamics of financial markets within the discipline called Econophysics. This is the fifth annual conference on The New Frontiers of Science, Art and Thought he has directed: 'The Physics of Aesthetics' (2005), 'Collective Intelligence' (2006) 'Out of Balance' (2007), 'In Resonance' (2008) and now 'Simulated Certainty'. Of note among other events he has organized are the international conference on art and space 'Expanding the Space' (Valencia, 2006) and the symposium 'Art, Science & Dalí' (2007) with the Fundació Gala Dalí and the Sociedad Estatal de Conmemoraciones Culturales. He also curated the art and science section of the exhibition *Mater* (FAD, 2008). In 2001 he received a KRTU scholarship to develop a project on literature and science. He has published the books *Versos sobre papiroflèxia matemàtica i boles peludes en mètrica d'espai-temps* (artist's edition, 1999) and *Teoria de l'striptease aleatori* (Ed. 3i4, 2004). He is a member of the editorial board of *Artnodes Journal* and has written and lectured on the relations between art and science in this country and abroad. He currently leads the Science section at Arts Santa Mònica on behalf of the Universitat de Barcelona.
http://www.ffn.ub.es/perello
http://www.artssantamonica.cat

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7TH ANNUAL CONFERENCE 'NEW FRONTIERS
OF SCIENCE, ART AND THOUGHT'

Auditori de la Pedrera, 30 September 2009
Arts Santa Mònica. 1 and 2 October 2009

Organised by:
Arts Santa Mònica, Departament de Cultura i Mitjans
de Comunicació de la Generalitat de Catalunya,
Obra Social Caixa Catalunya.

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