

# **Colorito: An Interactive Renaissance of Colour**

ACM Multimedia 2010 Interactive Art Exhibition  
26 Oct – 06 Nov 2010, Palazzo Medici Riccardi, Firenze, Italy





*Sponsored by*



BRITISH COLUMBIA  
ARTS COUNCIL  
An agency of the Province of British Columbia

Deutsches Institut  
Florenz

RICOH INNOVATIONS



Provincia  
di Firenze

*With the support of*

University of Florence – Media Integration and Communication Center, Columbia University,  
University of Amsterdam, Academy of Fine Arts – Venezia, Texas A&M University

**Teatrino dei Fondi/ Titivillus Mostre Editoria 2010**

via Zara, 58, 56024 Corazzano (Pisa)

Tel. 0571 462825/35 – Fax 0571 462700

internet: [www.titivillus.it](http://www.titivillus.it) • [www.teatrinodeifondi.it](http://www.teatrinodeifondi.it)

e-mail: [info@titivillus.it](mailto:info@titivillus.it) • [info@teatrinodeifondi.it](mailto:info@teatrinodeifondi.it)

Finito di stampare nell'ottobre 2010

presso la Tipolitografia Bongi di San Miniato (Pi)

# Note of the Conference Chairs

Technology is the intrinsic fuelling element of our society and a fundamental constituent of art, offering expressive potential to the individual attitudes and feelings of the artists. As the influence of technology – and particularly new media digital technology – on our lives will continue to grow changing our behaviors and the way in which we communicate with each other, artists will continually invent new ways to exploit and integrate the new technologies into their pieces. Nowadays more than ever it is therefore important for every person who is conscious of the importance of art in the formation of culture and human sensibility, not to limit to aesthetic approvals or refusals, or to discuss whether is more appropriate following traditions or praising to innovations, but instead to reflect on the deeper consequences that incorporation of technology in artworks will induce in the way in which our society produces and consumes art.

As new media technology requests more and more sophisticated know-how, new media art-

works will be more and more dependent on the collaboration between artists and computer scientists and engineers. The creative space will be much more shared between artists, engineers and theorists than being the product of the individual artist. This will presumably bring to new life artists workshops and make them popular again as in the past.

Rapid obsolescence of new media technology can make new media art ephemeral. As technology will become obsolete, dependent art will be no longer active. Messages conveyed can be ephemeral as well. We might experience a huge multiplicity of instant images that for the most part are devoid of their inner significance, and are only high definition graven image representations of the sensible appearance. New media artworks are immaterial artworks that exist only in binary code and are eventually visualized and viewed only for the time slot of an Internet interactive session, as a flow instead of an object. So they profoundly change the viewer's expectation of artworks that are produced as a result of materials and artists' ability to sense their properties.

The principle of the Albertian window – the reference frame through which a representation is observed by the viewer – that has inspired the

western artistic production so far in painting, photography and cinema, can be brought into question. For the first time after Velasquez's intuition, it has become possible to include the viewer in the artwork, so modifying the relationship between the observer and the representation. It is also possible to expand the viewer's experience with other sensory inputs than just visual impression, so blurring the line between art and reality further on. Social factors will also become more and more important as more interactivity with the artwork will be offered.

Stimulating reflections on these and other issues is one of the commitments of the ACM Multimedia conference, the premier world conference in Multimedia. Through its Art and Multimedia program it annually gathers scientists, practitioners and artists to exhibit new media artworks and debate on perspectives and opportunities for mutual interaction. This year artworks of world recognized artists have been selected under the unifying theme of the use of color media in electronic art. Hopefully they will foster new inspirations for the conference attendees and the general public. Having this edition in Firenze is highly significant. Firenze was in the 15th century the

birthplace of pictorial perspective, invented by Brunelleschi and mathematically expounded by Alberti, that ushered in the modern idea of space as high definition reproduction of reality, and the frontal relationship between subject and object. We are conscious that a conference even as prestigious and visible as ACM Multimedia, cannot be expected to raise any immediately noticeable result. However we believe that any results are the converging sum of an infinite multiplicity of small, almost imperceptible contributions that will eventually determine outstanding achievement and innovation of the persistent efforts. We, all of the organizers of this event, certainly hope that this is one of them.

Finally, we are pleased to thank Provincia di Firenze, and particularly its President Andrea Barducci, for the sensibility and availability to host and sponsor this event, and Dr. Alessandro Belisario for having supported its implementation. We also thank Ente Cassa di Risparmio di Firenze, Deutsches Institut Florenz, US National Science Foundation, British Columbia Arts Council, ACM SIGMM and Ricoh Innovations for their indispensable contributions.

*Alberto del Bimbo and Shih-Fu Chang*  
*ACM Multimedia 2010 General Chairs*

# Foreword

Colouring is both theoretically and practically different from the generic act of colouring, or from pure colour itself as it exists in physical reality. The coloring acquired a significant role in the process of defining the figurative grammar of modernity, starting with the Italian Humanism and Renaissance.

L. B. Alberti was among the first to identify the word colouring as a characteristic function of pictorial art. Yet it was Leonardo da Vinci who endowed it of aesthetic meaning, distinguishing it from the mere use of colour. The first real theoretical works on the aesthetics of colour appeared in the second half of the 16th century, namely by P. Pino, L. Dolce, and G. P. Lomazzo. For Pino colouring was the centrepiece of an image that is soft, convincing and enticing, yet, above all, represented a discursive mode that could express the differences among the various aspects of life and give voice to a qualitative dimension. Lomazzo recognized the capacity of colouring to “reveal the passions of the soul” and to express innermost feelings, thus

was one of the first theorists to note the psychological effects of single colours. With respect to color in nature, or the beauty of color paint, coloring thus refers here to the beauty of how color is used in a specific framework, the painting itself. It can be appreciated for its qualities of freshness and spontaneity, the ways in which the artist hides his or her art, transforming the painting into living matter, something seemingly natural and devoid of all artifice. Coloring inhabits the aesthetic realm when it evokes pleasure in light of the differences it displays among the elements of reality that characterize the scene represented in the painting. It doesn't evoke mere entertainment, “a childish joy” (Th. W. Adorno), but an aesthetic *difference* that fosters, in a specific way, the experience of other, *possible* worlds.

Parallel to these “metaphysical” investigations about colour, science took up a different stance on the subject. The most famous approach at that time was certainly Isaac Newton's theory on the visual spectrum of light (1671). From here research on colour branched out into neuroscience, neurology, psychiatry, psychology, engineering, and finally computing.

This objective view on the phenomenon, reflected back over time into the arts and as we see later

*vice versa*. As a serious examination of the scientific paradigm. Goethe, for example, attempted to establish a complete aesthetic evaluation of colour, resulting in his “Farbenlehre” (1810), which contains descriptions of phenomena such as coloured shadows, refraction, and chromatic aberration. Here colour represents the meeting point between sensible impressions and meaningful content. This communicative capacity can be evinced when the discourse on colour originates in an experience that is immersed and fluctuating, such as the condition of the subject situated in nature.

Goethe’s “Farbenlehre” is an example of work that extended not only to the arts, e.g. W. Turner studied it comprehensively, but also attracted the attention of a number of philosophers and physicists who have been known to have concerned themselves with it, including A. Schopenhauer, K. Gödel, W. Heisenberg, L. Wittgenstein, and H. von Helmholtz.

From the 19th century the pictorial art started to explore the more abstract, non-figurative subjects and within this process colour was no longer linked to the object or to a merely representative function; rather, it became an absolute that raised questions about its own function within the grammar of images. Its “sensible and moral” effects dominated the artistic avant-garde movements

way into the early 20th century. As painting was confronted with new ways of composition, artists tried to overcome the raising uncertainties by looking at music as the supporting art, as here composition always played a central role. The influence of music and its compositional elements did, for example, guide W. Kandinsky’s work.

Through abstract art color no longer pertained exclusively to painting and what emerged was a fusion of media. Let us think, for example, about S. Ejzenstejn and his experiments on audiovisual images and his proposal of an “audiovisual counterpoint”; or the work of W. Ruttmann, L. Hirschfeld-Mack, K. Schwerdtfeger and L. Moholy-Nagy in early 20th century.

With the appearance of electronics in the art new challenges for artists emerged that again enhanced the language of colour in the past 40 years. The growing acceptance of artists to use neon light or light projection, as exemplified by the works of L. Fontana, D. Flavin, J. Turrel and O. Eliasson, or combine light with generative engines, such as F. Malina, R. Krebs or A. and M. Siña, provided new insights into the dynamic aspects of light, resulting in the emergence of electronic media art. Here the artists used the most advanced media materials and methods to experiment with illumina-

tion, motion, duration and interaction to establish emergent systems that challenge the observer in their own view on their body and self, as well as their understanding of culture and society. Colour as a language that is not expressively inert played an essential role in these developments, as represented in works by S. Vanderbeek, SKB 'Prometei', N. J. Paik, M. Mullican, P. Campus, C. Sommerer & L. Mignonneau, E. Kac, C. Chen, J. Shaw, A. Hegedüs, or B. Lintermann.

With this exhibition we try to provide another view on colour in electronic media, covering works from the 1990ties until 2010, bridging various media and interaction modes, in hope that the presented collection stimulates the visitors to reflect on their own understanding of what colour can mean.

*Luca Farulli, Andruid Kerne and Frank Nack  
ACM Multimedia 2010  
Interactive Art Program Chairs*



**The Art**



**T***endrils* is a metaphor for the particles, filaments and networks that combine to create our collective selves, the interstitial signals that flow within our bodies, enacting Merleau-Ponty's notion of the "flesh of the world".

Like a tidal-pool, *Tendrils* reflects movement and visual patterns as an eco-system of tiny sensory-motor responses, in which we touch 'something of the self' within an elemental architecture. The tendrils garment is reminiscent of an active and intelligent skin that poetically responds by shivering, quivering, sighing, and "alighting". These skin-like responses are actuated by a series of small, interconnected motors and lights that reflect the inner energy and nervous system of the garment. Based on biological cellular structures that alter their structural form as a response to touch, tendrils' subtle movements reflect its ecological connection to our larger movements as a whole.

**Thecla  
Schiphorst**

## Tendrils

The tendrils garment is constructed from soft circuits using conductive fabric and thread. The aesthetic and material properties are shaped equally by the needs of the electronic elements, material characteristics of the textiles and qualities of the wearer's physical movement. Placement and organization of the sensors and transducers is guided by body ergonomics, somatic expertise in 'meaning through movement' and interaction design. Together these combine to guide the design of aesthetics. The development of the tendrils garment is one of a series of wearable explorations that transparently exchange and express internal body state and intention via participant-mediated communication. Tactile interaction creates playful, intimate connections between participants, the garment and the wearer. The garment provides an environment where the quality of a tactile gesture can replace many words, and can be exchanged collectively.



The networked wearable installation, *Exhale* characterizes the concept of designing with breath. In *Exhale*, breath, skin and clothing come together within a set of evocative and sensual skirts that are embedded with body-area-networks that exchange and elicit breath within a shared network. The rhythm of networked group breath is used as an interface for interaction, and a mechanism for sharing our bodies' affective non-verbal data.

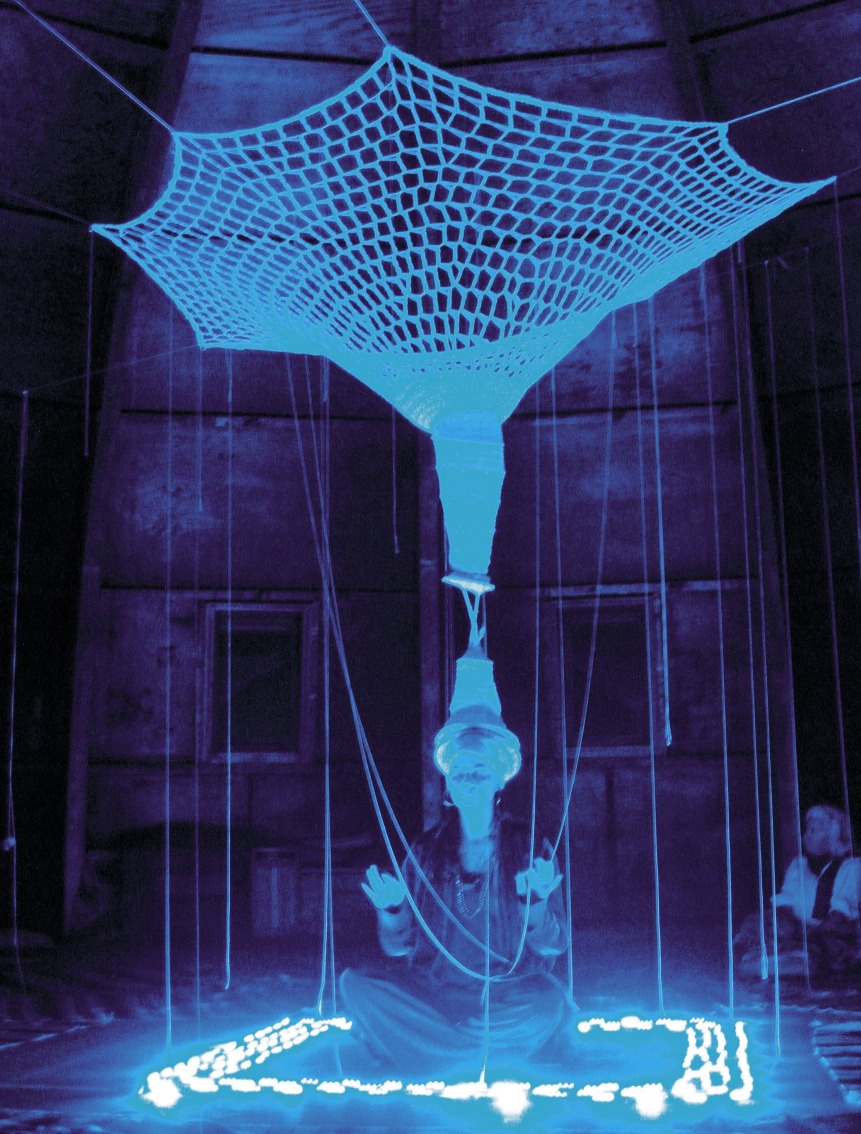
There are two central design themes in *Exhale* that are summarized by the concept "wearing our breath". These themes are: 1) the use of breath as a somatic indicator of state, and 2) the exploration of material, movement and fabric within interactive garments. These design themes support interactive garments that move with us, that express ourselves through strategies of hiding and revealing, and that work with breath to support identity, connection and communication.

Thecla  
Schiphorst

## Exhale

In *Exhale*, breath is used to actuate small vibrators and fans sewn into the linings of skirts. The networked breath of the participants is reflected and embedded in the lining of sensually evocative skirts worn close to the body. *Exhale's* breath data actuates physical vibration and the micro-movement of air on or close to the skin. The placement of these actuators beneath the skirt lining explicitly hides them from the visual sense. The underlying concept of *Exhale* is cultivating self-observation in such a way that body-state can be observed and shared with others in a networked environment. Many physical techniques in somatics use breath as a mechanism to direct attention to our own physical processes. Within these somaesthetic frameworks, attention to breath is experiential, and can increase self-efficacy through shared experience.





**N**anotechnology is changing our perception of life and this is symbolic in the Blue Morpho butterfly with the optics involved – that beautiful blue colour is not pigment at all but patterns and structure. This butterfly has intrigued scientists for generations because of its subtle optical engineering that manipulated photons. The lamellate structure of their wing scales has been studied as a model in the development of fabrics, dye-free paints, and anti-counterfeit technology such as that used in monetary currency.

The optics are no doubt fascinating but the real surprise is in the discovery of the way cellular change takes place in a butterfly. Sounds of metamorphosis are not gradual or even that pleasant as we would imagine it. Rather the cellular transformation happens in sudden surges that are broken up with stillness and silence. Then there are the eight pumps or “hearts” that remain constant throughout the changes, pumping the rhythm

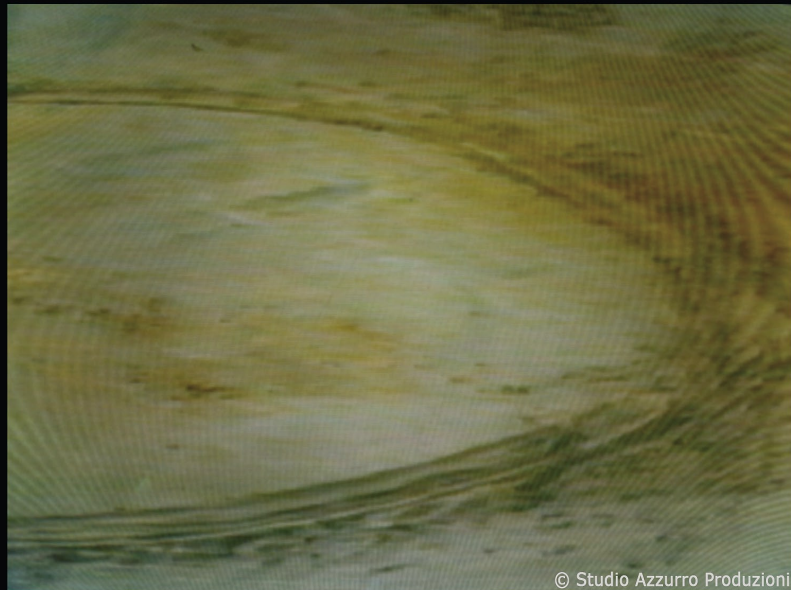
**Victoria Vesna  
& Jim Gimzewski**

## Blue Morph

in the background. During the transformation to emergence each flattened cell of the wing becomes a nanophotonic structure of black protein and space leading to iridescence.

Nano is not only making the invisible visible but also changing our way of relating to “silence” or making the in-audible audible. With all the noise of chattering technologies we propose the interactivity to be stillness for in this empty space of nano we can get in touch with the magic of continuous change. *Blue Morph* shape shifts and is site specific depending on context.

The wings of the Morpho peleides butterfly display a metallic-like, shimmering shade of blue and green. This colour, however, is not a result of pigmentation but is rather iridescent colour. The extremely fine lamellated scales covering the Morpho’s wings re-flect incident light repeatedly at successive layers, leading to interference effects that depend on both the wavelength and angle of incidence/observance. Thus the colours produced vary with viewing angle.



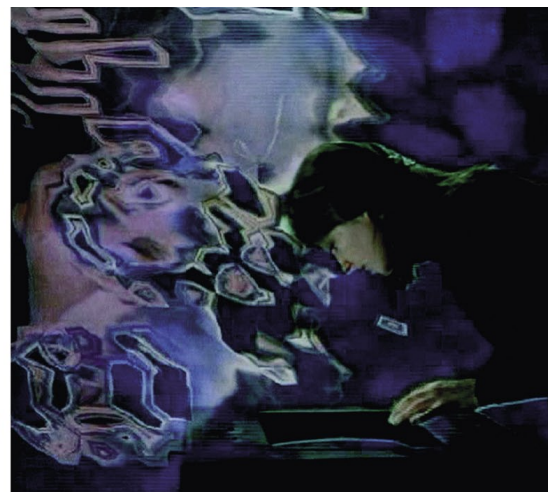
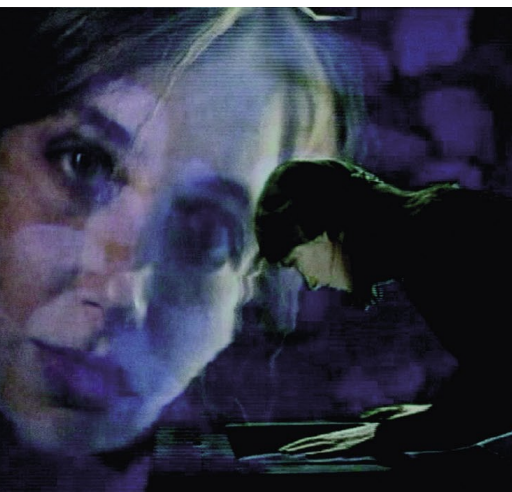


**A**lmost at the same time as we were preparing *Kepler's Traum*, in collaboration with Battistelli, we accepted the challenge of investigating another mythical and even more distant universe: that of Homer's literary classic the Iliad. Reading beyond the episode we were concerned with we were suddenly caught in a verse contained in the chapter Andromaca on the Walls. Andromaca runs toward the tower. She leans out over the walls and sees the body of Hector being dragged by the horses. Andromaca has run up in her wedding dress. The "ribbons", the "headband", the "scarf", the "veils" are symbols of happy days but they too now appear to be participating, as inanimate creatures, in the tragedy of the moment. This image of the decorations coming to life, coming untied and slipping off the inanimate body, is the most effective, the most extraordinary that could be found to express Andromaca's drama.

**Studio Azzurro**

## **Il Combattimento di Ettore e Achille**

A clear, clean-cut image, with no concessions to empathy, an almost abstract image used to convey the power of a real feeling. In this reading lay the key to imagine the episode. Leaving aside all thoughts of an installation, in accordance with the composer we turned toward a simple staging: two screens with synchronised images and a narrative structure divided into six units. To these dramatic units a prologue and an epilogue were later added in which the narrative presence of "tactile and archaic" sounds could be underlined. Two synchronised screens project the video. In this double projection there will also be a mixing of the natural experience compared with the immaterial one, of the theatrical image with the filmic one, of the archaic sounds of the harp and percussion with the electronic images, of myth with everyday life.



**L**iquid Views – Narcissus’ Mirror represents the parable of Ovid’s Metamorphoses as an act of self-reflection that transforms into a visual and intellectual reflection on presence and awareness in the media age. The spectator’s transition into the virtual world happens through touching his or her own fictitious body. Touch is the interface and the mediator of different languages and perceptions. Through these elemental references, the work becomes Mixed Reality. Media Narcissus experiences reality as boundless. The fact of seeing without noticing that one is being seen is an allegory on the Internet.

A horizontal screen shows the simulation of a blue shimmering water surface on which the viewers see their own reflection. The sound of water can be heard. A miniature video camera records the image of her face peering down, and computer

**Monika  
Fleischmann &  
Wolfgang Strauss**

## Liquid Views

software blends this picture with the moving water. Visitors who take up the work’s offer to play along suddenly become actors in a scene, which can be followed by the other visitors. The screen is no longer the interface to the worlds of information and entertainment they are accustomed to accessing. Instead, their gaze into the virtual spring is reflected, their own faces look back at them from the surface of the screen.

A big projection in the background offers viewers a second perspective in which a magnifying mirror reflects the viewer’s gaze. Strongly enlarged, the virtually reflected face looks into the space and onto the next spectators. Thus, the introverted look at one’s self is diverted into a look on the others. Therefore, in a sense, the viewer and the spectator seem both to become the observed. The mirror screen can be understood as an interface that connects the real with the virtual world.



**T**his artwork explores a very ancient theory of the cosmic possibilities of mankind: "Solar Returns". This theory postulates the astronomical/astrological view (until 1600 there was no distinction between the two), according to which every living being can control (i.e. prevent) a cycle of cosmic tendencies by visiting predetermined places in the world on the day of their astronomic birthday. It was resuscitated in the 1970s by an Italian researcher, who developed a complex geo-astronomical program that allowed to trace the bio-cosmic coordinate chart of any individual.

We attempted to verify this theory by travelling to Brazil, India, Siberia, Yucatan, Singapore, Australia, Canada and several other countries, in locations far away from traditional tourist sites. Visiting these places, meeting people with a completely different view of time and existence was a great experience.

**Bianco & Valente**

## Tempo Universale

Whether such a theory has or not some real foundations is not relevant here. Our thoughts about the nature of the relationship between the past, the present and the future solved into a question mark of what is material and spiritual at the same time, of what make us in awe of, and motivates to practice and believe in art.

This artwork is a very personal exploration of the cosmic possibilities of mankind. It is a video installation composed of three video projections and one ten-channels audio track, played in an endless loop. The combination of video and audio provides a novel space, where although the theory is not fully displayed, the audience is invited to view and contemplate their spatial, bio-cosmic coordinates.





**T**he *Living Wall* project is a material and technological exploration focusing on the integration of paper, paint, and electronics on a large-scale flexible surface. Using conductive, resistive, and magnetic paints we constructed wallpaper that can create dynamic, reconfigurable, programmable spaces. The wallpaper consists of circuitry and decoration that is painted onto a sheet of steel-impregnated paper and a set of electronic modules that are attached to it with magnets. People can interact with the piece by touching any of the large purple-pink flowers in the design. Each flower is linked to the call of a different songbird and a person can create a forest-like chorus by running her hand across the wall. The lamps on the wallpaper can be moved to any one of the pattern motifs, allowing a person to constantly change the look and function of the piece to fit different situations.

**Leah Buechley**

## Living Wall

As people touch and walk past the wallpaper, the piece logs and stores these actions along with information about its environment, creating a rich history of the space it has been in and the patterns of interaction it has elicited.

The botanical motif in our design was inspired by arts and crafts era wallpapers and textile prints. Like the members of the arts and crafts movement, we also strive to reinvigorate hand-crafting traditions, and the piece is as much about finding new ways to blend technological and traditional crafting practices as it is about designing a new interface or installation. As we develop new technologies, we also strive to develop new ways of working with technology.

*Leah Buechley,  
David Mellis,  
Hannah Perner-Wilson,  
Emily Lovell &  
Bonifaz Kaufmann*







**T**he *Travels of Mariko Horo* is an interactive 3D computer graphic installation that constructs the exotic West through the eyes of a fictitious, time-travelling Japanese woman, Mariko Horo. An inverted Marco Polo fantasy, it was inspired by the Japanese “Namban” artists who, while Japan was closed to the outside world, constructed the West in their imaginations as an exotic and unknowable universe. It also reflects on the “hidden Christians” in Japan who, while Christianity was forbidden on pain of death, secretly venerated images of the Buddhist Goddess of Mercy Kannon as the Christian Madonna. Tamiko Thiel was raised on the restrained palettes of Japanese-American Methodist Christianity and Zen Buddhism. In her upbringing, the brilliant colorit of Byzantine and Orthodox Christianity on the one hand and Tibetan Buddhism on the other both evoked ancient travellers’ stories of exotic “barbaric kingdoms” – in either the Far East or the Far West, depending on whether seen through American eyes or Japanese eyes.

**Tamiko Thiel**

## The Travels of Mariko Horo

In *The Travels of Mariko Horo*, Mariko Horo mistakes Venice and its islands for all of Europe, and thinks she has found the Buddhist Western Paradise, the “Isles of the Blest” floating in the Western Seas. She depicts Venice as a gaudy, barbaric kingdom populated by demonic peoples and worshipping strange and terrible gods. In the artwork Thiel uses Goethe’s Colour Theory to play with users’ emotional states as they navigate through the scenes of this “spatial narrative”. A scene set in an underwater Venice uses a muted, dim, low-contrast palette of whites and greens. The brilliant, high contrast Last Judgment scene uses the similar compositions and high contrast colour schemes found in both Byzantine and Orthodox Christianity and in Tibetan Buddhist tankas. Both can have red hell fires below, licking at the green background of the mortal world, rows of heavenly beings above, on golden clouds against a celestial blue background, and in the middle a major deity sitting in judgment, surrounded by a golden nimbus or mandala.



There is nothing to fear. Even death  
is a step towards freedom.



The *Alan01* installation engages the audience in dialogue with Alan Turing (1912–1954), one of the fathers of modern computer science. Turing made a provocative contribution to the debate regarding artificial intelligence: whether it will ever be possible to say that a machine is conscious and can think. The heroic World War II code-breaker was harshly persecuted for his homosexuality and convicted to probation and chemical castration in the 50's. Alan Turing's death was ruled as a suicide.

The *Alan01* inter-actor can communicate with a fictional Alan by a system of symbols, the installation responds as if his consciousness had indeed been coded into a machine at the time of his death

The user of the installation can meet a fictional Alan Turing in dialogue, interactively, as if Turing's consciousness had indeed been carried on by a machine's code.

*Alan01*'s minimalistic black-and-white (with red effects) colour scheme, which continues through

**Jaakko Pesonen &  
Teemu Korpilahti**

## Alan01

the user interface and the screening of videos and texts, seeks to psycho-physically transport the user back to the time of Alan Turing – and beyond. The sparse use of red emphasizes the themes of the installation and symbolizes anger, blood, pain, guilt, sin, passion, courage, sacrifice and warning. The colour scheme and its exhibition also evoke German expressionist cinema (e.g. *The Cabinet of Doctor Caligari*) and memories on Mary Shelley's *Frankenstein: or the Modern Prometheus*, filmed in 1931 with Boris Karloff as the 'monster', as *Alan01* reaches out to the questions of what constituted and constitutes human consciousness and individuality in human-created culture and technology.

The installation has been produced by the Crucible Studio in Media Lab, Aalto University, School of Art and Design and has been supported by the European Commission contract SALERO, Arts Council of Finland and AVEK (The Promotion Centre for Audio-visual Culture).

<http://crucible.mlog.taik.fi/productions/alan01>



**T**he Italian garden is a place of wonders and represents the ideal of harmony typical of Renaissance culture. The aim of its beauty could simply be interpreted as entertainment for aristocrats, but the delight enhanced in the visitor reveals wider plans. It is the dream of a poet who imagines a miniature world for the pleasure of body and soul and realizes it together with architects and gardeners through a refined play of allegories and perspectives. Its labyrinths and box parterres, its statues, its floral arrangements, its waves, polychromatic stones and most hidden retreats tell stories, whisper songs and immerse us inside a dream. This is a stage where an architect, a poet and a gardener create a kind of dramaturgy of the eye, where the spectator enjoys getting lost and finding her/his way again as if she/he were living inside an imaginary poem. Here nature is called to fulfill an intimate wish, enjoyable and at

**T.P.O.**

## **CCC Trilogy** **The Italian Garden**

the same time celebratory, where the absolute protagonists are beauty, the art of representing feelings through space and the shapes that nature can invent through the able hand of a gardener. In the show, two dancers accompany the audience into five different environments - the shade garden, the labyrinth, the “verzura” garden, the night garden, and the water garden - and introduce us to the wonders of a hidden world. Their dancing in the grass, their interacting with the classical geometries of an Italian garden, creates several little entr’actes where characters move like playful puttos.

The public (children and adults) will be able to enter and play inside this “sensitive garden”, composed of a white dance floor onto which animated images are projected.





**C***hromatic Perspectives... Scaling my Art*, addresses the results of a trans-medial exploration departing from an “unframed” process of creativity and multi layered convergence within traditional media Art and virtual Art, mathematics, motion-Golden Ratio, motion perspective, nonlinear dimensionality, immersive virtual representation with particular attention in colour, sound, locative and emotional involvement and cognitive processes in visual perception. The application is based in the virtualization of selected artworks made with traditional medium and techniques (drawing, painting, sculpture, print-making, writing, e.g.) created by Franz Fischnaller in diverse geographical locations and in different human, urban and natural landscapes through his artistic evolution and artistic style. Traces of pencil, lines and/or oil strokes on 2D planar surfaces such as sheets of paper or canvas are unframed, where object and environment are virtualized and embedded in a 3D illusion, within a virtual boundless and interactive environment. An artwork created with a non-digital and non-motion media (tangible

**Franz Fischnaller**

## **Chromatic Perspectives... Scaling my Art**

“freeze frame”) is “unframed” – virtualized, co-located and embedded in an immersive boundless environment. Immersing visitors into the picture: The virtualized un-framed freeze-frame occupies and becomes the virtual space itself, allowing tangibility to fade out and intangibility to take form giving birth to a penetrable immersive new “reality” a fluid representational atemporal continuum, weightless and scalable, transferring the visitor into the pictorial space and enabling a deeper sense of virtuality in the immersive virtual representation through emotional and psychological involvement. To re-take, un-framed, re-contextualized and embedded within a boundless interactive VR-environment, a 2D classical art work which has been already created for the sake of living in first hand and in real time the results of such experimentation sounds like a strange goal, but as Leonardo Da Vinci claims: “Tutto il nostro sapere ha origine dalle nostre percezioni”.





**W**e are presenting an installation called *Chroma Space*, which serves as a platform for experimenting the novel usage of affective colours in an immersive environment. *Chroma Space* shares *Flick Flock*'s technology, which explores a transformative enclosure through a combination of 3D game engine, computer vision, and ambisonic 3D. The challenge in the implementation of stylistic presentation of colours in *Chroma Space* involves not only game engine restrictions but also the sensually destructing visual continuity issues (both in visual presentation and in animation) that are difficult to resolve in a synthetic world. This installation is aimed at demonstrating the effective impacts of using a stylistic approach to address emotional sensations, by making colours move in space.

We envision *Chroma Space* in muted palettes, depriving each rendered frame with the richness of

**Wendy Ann  
Mansilla  
& Jordi Puig**

## Chroma Space

colours. With carefully chosen palettes to only direct the sensations of the spectator, entering *Chroma Space*, the performers find themselves influencing the behaviour, colours, and presentation of the virtual objects. *Chroma Space* presents muted colours that are temporally interacting and communicating to our senses. The installation also features virtual objects that are moving in harmony with colours and sound. This is the abstract world that defines *Chroma Space*.

*Chroma Space* creates its immersive setting through light and wall projection and is driven by the immersant's own body. The immersant's body affects the imagery and sound is acting like a solid geometry mapped in a coordinate system. By raising the viewer's arms far apart from the body, the viewer signals the system to go forward in space. By moving the body some degrees to the left or right, the system shifts the virtual camera in that direction. The direction of the movement of the user also affects the panning and playback of sounds.



© 1998 Kate Rothko Prizel and Christopher Rothko.

In the age of digital reproduction, artworks such as Rothko's paintings are iconified and brought to a wider audience through different media. This conflicts with the aesthetic of his art as digital prints continuously propagate an iconified version of his paintings, which can only ever capture their surface layer.

*Encounter (Resonances)* is about the remediation of one of Mark Rothko's Seagram murals. The work is created from reproductions of Rothko's Red on Maroon found on the Internet as well as a Ultra-violet light analyses of the painting which are used to construct an interactive installation piece.

**Hayley Hung  
& Christian  
Jacquemin**

## **Encounter (Resonances)**

These reproductions are stacked together using computer graphics techniques to echo Rothko's mixed media layered painting method. While each of these copies may instantly remind us of the original painting, the composited graphical rendering of *Encounter (Resonances)* offers a different perspective on the spirit of his work.

The graphical compositing technique encourages a sense of prolonged and deep engagement with the work through increasingly fine-detailed subtle shimmering effects that can only be perceived if an onlooker believes there is more to the work than its initial superficial offering.

**Giovanna Bianco** and **Pino Valente** are media artists, who met 1993 and have been working together since then. Their work focuses on perception phenomena and brain dynamism that enable us to retain the memories of our experiences and perceive mental images, through which we can conceive and reproduce the external reality.

<http://www.bianco-valente.com>

**Leah Buechley** is an Assistant Professor at the MIT Media Lab where she directs the High-Low Tech research group. The High-Low Tech group explores the integration of high and low technology from cultural, material, and practical perspectives with the goal of engaging diverse groups of people in developing their own technologies. Leah received PhD and MS degrees in computer science from the University of Colorado at Boulder and a BA in physics from Skidmore College.

<http://web.media.mit.edu/~leah/>

**Franz Fischnaller** is a multifaceted media scholar, artists, designer and producer, operating in the fields of art, design, architecture, technology, science, and information technology. He is chief Designer, Project and Production Manager of F.A.B.R.I.CATORS an interdisciplinary group, concerned with the integration of Art+Design + Architecture + Technology + Communication.

[http://www.fabricat.com/FF\\_home.htm](http://www.fabricat.com/FF_home.htm)

**Monika Fleischmann** is a research [media] artist and scientist. Since 2008 she is Honorary Professor of Media Theory & Digital Media Art at University of Applied Sciences in Bremen, and since 1994 Research Scientist at Fraunhofer IAIS, Sankt Augustin. Prof. Monika Fleischmann works in partnership with Wolfgang Strauss since 1987 on media art installations and the concept of interactivity.

<http://fleischmann-strauss.de/index.html>

**Jim Gimzewski** is a Distinguished Professor of Chemistry at the University of California, Los Angeles; Director of the Nano & Pico Characterization Core Facility of the California NanoSystems Institute; Scientific Director of the Art | Sci Center and Principal Investigator and Satellites Co-Director of the WPI Center for Materials NanoArchitectonics (MANA) in

# Artists

Japan. Jim Gimzewski is also involved in numerous art-science collaborative projects that have been exhibited in museums throughout the world.

<http://www.chem.ucla.edu/dept/Faculty/gimzewski>

**Hayley Hung** is a postdoctoral research fellow at the University of Amsterdam in The Netherlands. She is interested in studying human interactive behaviour in face-to-face settings and how this can be encouraged, stimulated, or enhanced in public spaces by the integration of computer science and art. Her research focuses on automated methods that can be used to analyse and measure aspects of human behaviour.

<http://staff.science.uva.nl/~hhung1/>

**Christian Jacquemin** works as a professor in Computer Science at the University of Paris Sud 11 in France and researches tools and methods that can be used to enhance the creative process for artists. He is interested in the applications of Augmented and Virtual Reality to arts, design, and architecture. He has collaborated on many art/science projects and organized several workshops and seminars in this area. His research is focused on interactive facial animation and spatial augmented reality.

<http://www.limsi.fr/Individu/jacquemi/>

## Artists

**Teemu Korpilahti** is a digital media professional specialized in interface design and Flash production. He is working as a researcher in Media Lab, Aalto University, School of Art and Design.

<http://crucible.mlog.taik.fi/>

**Wendy Ann Mansilla** is currently a Ph.D candidate with the Center of Quantifiable Quality of Service at Norwegian University of Science and Technology (NTNU). Along with her academic work, she conducts lectures on new media technologies and augmented reality and produces digital installations related to visual illusion and synthetic reality. Her other latest works on this field are *Kalospyrōphorus* (2008) and an interactive mixed reality installation called *Flick Flock* (2009) commissioned by Baltan Laboratories and Píksel Bergen.

<http://isnm.de/~wmansill/index.htm>

**Jaakko Pesonen** is a media artist with an architecture background. He works in several medias; set design, exhibition design, graphic design and art installations.

<http://crucible.mlog.taik.fi/>

**Jordi Puig** works as a researcher at Q2S, NTNU. He co-established a creative advertising company called Cuatic, specialized in the development of physical interaction. He won advertising prizes at festivals, such as El Sol Festival, New York Festival, Laus and Europrix. He exhibited his artistic work at FILE, Medialab Prado, Sonar, Baltan Laboratories, Piksel and Le Fresnoy. He worked at Ars Electronica Futurelab as a creative engineer. Also worked as a sound programmer for concerts and theatre.

<http://wasawi.com>

**Thecla Schiphorst** is a Media Artist/Designer and Faculty Member in the School of Interactive Arts and Technology at Simon Fraser University in Van-

couver, Canada. Her background in performance and computing forms the basis for her research, which focuses on embodied interaction, sense-making, and the aesthetics of interaction. She is particularly interested in the poetic forms that cultivate affect, materiality and experience-modeling within human computer interaction.

<http://www.sfu.ca/~tschiph/>

**Wolfgang Strauss** is an architect, media artist and scientist. Since 2009 he is Guest-Professor for Experimental Interaction in the HCI Master at University Siegen, and Research Scientist at Fraunhofer IAIS, Sankt Augustin. Since 1987 Wolfgang Strauss works in partnership with Monika Fleischmann on media art installations and the concept of interactivity.

<http://fleischmann-strauss.de/index.html>

**Studio Azzurro** was founded in 1982, when Fabio Cirifino, Paolo Rosa and Leonardo Sangiorgi began an experience, which, over the years, has explored the poetic and expressive possibilities of new technological cultures. In 1995 they were joined by Stefano Roveda. Through the creation of video environments, sensitive and interactive environments, museum exhibitions, theatre

# Artists

performances and films, they have developed a broad artistic experience which cuts across traditional disciplines, forming a team which is open to various contributions and other significant collaborations.

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

**Tamiko Thiel** is developing dramatic and narrative capabilities of interactive 3D virtual reality installations as a medium for addressing social and cultural issues. Thiel's work has been supported by grants and residencies from MIT, WIRED Magazine, the Japan Foundation, and the Berlin Hauptstadtkulturfonds. In 2009 she was awarded the IBM Innovation Award at the Boston Cyberarts Festival.

<http://www.mission-base.com/tamiko/>

**T.P.O.** has been from its beginning (1981) a visual theatre company producing original visual theatre works devoted to children. Under the direction of Davide Venturini, Francesco Gandi and digital designer Elsa Mersi, the group has developed specific research on the use of digital technologies connected with animating images and sounds in a theatre context. Currently TPO collaborates with artists (actors/actresses, dancers, musicians, illus-

# Artists

trators, graphic designers, writers) and other professionals (like engineers and philosophers) from different nationalities, to develop new multimedia applications and new forms of 'perceptual' theatre.

<http://www.tpo.it/>

**Victoria Vesna** is a media artist and professor at 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 behaviour and how perceptions of identity shift in relation to scientific innovation.

<http://victoriavesna.com/>

***Colorito: An Interactive Renaissance of Colour*** is the Art Exhibit of ACM Multimedia 2010, the ACM International Conference on Multimedia.

*Conference General Chairs*

**Alberto del Bimbo**, University of Florence, Italy

**Shih-Fu Chang**, Columbia University, USA

*Curatorial Members*

**Silvia Evangelisti**, Accademia di Belle Arti Bologna, Art Director Bologna Art Expo., Bologna, Italy

**Luca Farulli**, Accademia di Belle Arti di Venezia (Aesthetik), Italy, IZKT Universität Stuttgart, Germany

**Andruid Kerne**, Interface Ecology Lab, Texas A&M University, USA

**Pascal Maresch**, Director Media Performance Group, Ars Electronica, Linz, Austria

**Frank Nack**, ISLA, University of Amsterdam, The Netherlands

**Franziska Nori**, Director of the Centro di Cultura Contemporanea Strozzi, Palazzo Strozzi, Florence, Italy

*Technical support*

**Nicola Torpei**, MICC, University of Florence, Italy

*Cover by*

**Matteo Bencini**