



Co-Sponsored by The National Space Society  
and the Planetary Society

**May 4 - 7, 2006, Los Angeles, CA**  
**Space Art Track, Space Art Exhibition and Screenings**

**May 4 - Gravity Pulse: ZGAC Parabolic Flight For Artists**  
**DataFlux: Live Interactive Webcast of Microgravity Art**

Produced in collaboration with the STUDIO For Creative Inquiry at the  
College of Fine Arts, Carnegie Mellon University  
Zero Gravity Corporation and  
The Zero Gravity Arts Consortium (ZGAC)  
and other Affiliate Institutions

Lowry Burgess and Frank Pietronigro  
Co-Chairs, Space Art Track  
25th International Space Development Conference

## **EXECUTIVE SUMMARY**

The Zero Gravity Arts Consortium (ZGAC) in collaboration with the STUDIO For Creative Inquiry at the College of Fine Arts at Carnegie Mellon University will produce the Space Art Track of the 25th International Space Development Conference, Co-Sponsored by the National Space Society and the Planetary Society, by creating the following projects:

May 4, 2006

**Gravity Pulse: ZGAC Parabolic Flight For Artists** - an historic, first parabolic flight of its kind flown in the United States featuring international space artists creating new works in microgravity showcased  
Data Flux, an historic live interactive webcast of the artists flying direct from Zero Gravity Corporation's Boeing 727 jet

### **Los Angeles Space Art Banner Program**

based on the Space Art Exhibition

**The Artists' Universe Space Art Exhibition** is a juried traveling exhibition of 100 astronomical artworks by artists reflecting various representative media, subject matter, and styles of International Association of Astronomical Artists.

**Science Fiction / Technology Fact** – selected works from a European Space Agency's exhibition based on a study that was carried out by Maison d'Ailleurs in Yverdon-les-Bains, Switzerland, which houses one of the world's largest collections of science fiction literature in the world. The collection images

### **Twilight Space Art Screenings Program:**

Feature fascinating art and space science collaborations and video from Europe's International @rt Outsiders Festival Space Art Exhibition and Symposium, curated by Jean Luc Soret, President of Space Art One and Curator of International @rts Outsiders Festival. This historic Parisian museum exhibition features many works by contemporary space artists including video of artworks actually taken into space as well as video documentation of space artwork that inhabits microgravity environments.

### **Space Art Presentations**

A series of inspirational presentations by international space artists, curators and historians complimented by a Space Art Exhibition produced in affiliation with International Association of Astronomical Artists and Space Art One.

**and the Historic STUDIO Space Art Studio Seminar**

## SPONSORSHIP OPPORTUNITIES

History has shown that when artists and scientists collaborate that rapid invention and innovations follow. Space art collaborations such as the Zero Gravity Arts Consortium proposed Parabolic Flight for Artists and the dialogue we intend to create as a part of the Space Art Track offer exciting pathways to new invention.

Why should you and your organization consider sponsoring the Space Art Track Programs at this time in history? Fascinating answers to the question, "Why?" are contained in an inspirational essay written by Space Art Track Co-Chair, Lowry Burgess, titled *The Three Whys of Space Art*. **(SEE ADDENDUM)**

Sponsorship costs range from \$500.00 to \$100,000.00. Sponsors are offered a variety of unique opportunities for collaborations in support of Space Art Track programming. Please contact Lowry Burgess or Frank Pietronigro to discuss details regarding sponsorship costs and benefits related to any one of the following Sponsorship Opportunities and Space Art Track components.

Gravity Pulse: ZGAC Parabolic Flight For Artists  
(Sponsorship Range: \$25,000 - \$100,000)

DataFlux: Live Interactive Microgravity Art Webcast  
(Sponsorship Range: \$5,000-\$20,000)

Special VIP Reception for Space Artists at Flight Departure City (Sponsorship Cost: \$5,000 plus the costs to produce the event)

ISDC2006 Space Art Exhibition (Sponsorship Range: \$1,000-\$5,000)

ISDC2006 Space Art Screening (Sponsorship Range: \$1,000-\$5,000)

Space Art Track Los Angeles Area Banner Program  
(Sponsorship Range: \$10,000 - \$15,000)

Individual Space Artists' Projects (Sponsorship Range: \$5,000 - \$20,000)

Space Art Track Panels and Program (Sponsorship Cost: \$10,000 - \$25,000)

Space Art Studio Seminar at the STUDIO For Creative Inquiry at the College of Fine Arts, Carnegie Mellon University (Sponsorship Costs: \$10,000)

Sponsors may have other ideas on collaborating with us and we welcome your suggestions. Sponsors may wish to consider sponsoring other Special Space Art Track projects including the publishing of an educational DVD, book or a video documentary featuring the track, flight, exhibition, artists and their projects.

## **CONTACT INFORMATION:**

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Many of the artworks presented in this proposal will be included in the proposed Space Art Track Exhibition.

## **PROJECT OVERVIEW**

One highlight proposed for the Space Art Track is the ZGAC's Parabolic Flight for Artists that will feature twelve teams of internationally acclaimed artists flying a variety of unique Space Art projects, each described below, while providing people worldwide with a glimpse into this fascinating genre via the internet. This will be the first time in history that such a flight will take place in the United States.

To expand the cultural utilization of space and to amplify the historical importance of this event, this flight will showcase a 'Zero Gravity Theatre' where audience members will experience the artists and their microgravity art processes first hand, while floating in weightlessness, as a unique theatre experience.

Audiences worldwide will experience the artists and their work during an interactive webcast that will be presented direct from the flight. Flown from Los Angeles International Airport on May 4, 2006, the flight will be enjoyed during a Space Art Screening at the ISDC conference hotel via a live interactive webcast. Affiliate institutions from around the globe are also involved to host live interactive webcasts from their various institutions. The webcast will be engineered by partners including: Exequo, the Open Broadcast Network, General Orbital Corporation and other Affiliate / Collaborating Institutions.

Coined by Lowry Burgess, the jet itself will serve as a unique 'sensing sculpture' capturing fascinating video, audio as well as monitor various biological functions, including their cerebral activity of the artists, while they create in microgravity. This data produced by artists onboard the flight will be made available to Affiliate/ Collaborating Institutions who, in turn, will use that information as the basis to produce new artistic responses, reflecting that data, as multiple live interactive webcasts originating from their institutions. Sponsors are encouraged to join us in this production.

The collaboration supporting the ZGAC Parabolic Flight for Artists will serve as a conceptual model to study similar new media Space Art projects that would propose, in the future, to use the International Space Station as a similar 'sensing sculpture'.

In addition to the flight we are planning an extensive Space Art Exhibition, Space Art Screenings and other programs as described below.

**ZGVC**  
**ZERO GRAVITY ARTS CONSORTIUM**  
 PARABOLIC FLIGHT FOR ARTIST  
 FLOWN BY ZERO GRAVITY CORPORATION

IN COLLABORATION WITH  
**STUDIO**  
 FOR CREATIVE INQUIRY

7 ONBOARD ARTISTS' STAGING AREAS  
 RUNNING DOWN THE LENGTH OF JET  
 9' long x 10' wide x 62" high

DVCameras Documenting in each Staging Area  
 Proposed Blue Screen  
 AVProjector in some areas  
 Camera Mounts

**FLIGHT WEBCAST**  
 A post-flight webcast will be produced in collaboration with Exequo, the Open Broadcast Network, General Orbital Corporation and Philco

Flight Team Artist: Kristen Burgess Agee, Lowry Burgess, Tania Fraga, Lorelei Lisowsky, Otto Piene, Frank Pietronigro, Brad Pitts, Gavin Starks, Chris Robinson, Ricky Seabra, plus proposed team of students from the College of Fine Arts at Carnegie Mellon University and the San Francisco Art Institute.

## Gravity Pulse: ZGAC Parabolic Flight For Artists May 4, 2006, Los Angeles International Airport

The ZGAC Parabolic Flight for Artists, which is the first of its kind to be flown in the United States, will showcase cutting-edge interdisciplinary, multicultural Space Art projects created by prominent artists whose provocative new works are defining and expanding the scope of this fascinating genre.

Zero Gravity Corporation will ferry a Boeing 727 jet from their home base in Ft. Lauderdale to Los Angeles International Airport and the flight will take place on May 4, 2006 as a part of the 25<sup>th</sup> International Space Development Conference. A flight staging area will be set up somewhere near the jet to support the installation and striking of artists projects. It is proposed that a sponsor host a VIP Press Event prior to flight.

## **Gravity Pulse: ZGAC Parabolic Flight For Artists (CONT'D)**

To fortify the connection between the flight and the Space Art Track, all artists flying projects will publish and present papers about their work during the Space Art Track of the 25th International Space Development Conference 2006. Art projects proposed for flight will be discussed during presentations as a way of informing and inspiring conference attendees to the conceptual relationship between the parabolic flight, the Space Art Track and new visions for the cultural utilization of space.

Multiple projects that directly respond to the unique conditions of microgravity will be flown including projects created by teams of experts in the fine arts, webcasting, engineering, space sciences, psychology, history and cultural theory. Some of the artists, representing various cultures from around the world, will create new art that reflects their cultural experience in microgravity reinforcing opportunities for international projects and audiences.



On The Edge by Joe Tucc

The following is a partial list of the Space Art Project concepts proposed for flight. Each project will reflect, in some way, the Gravity Pulse theme:

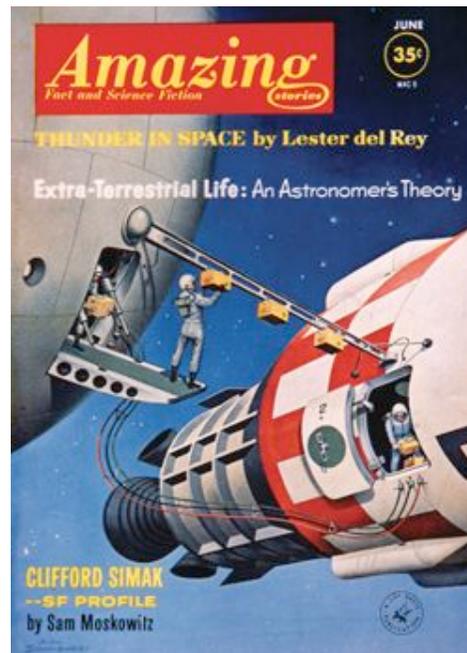
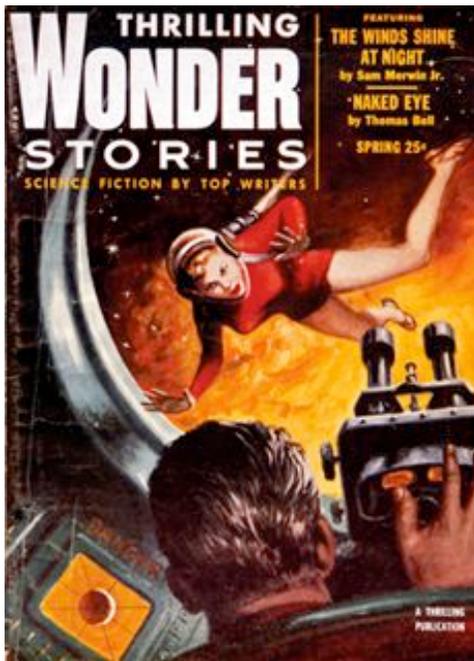
- A hand holds a sculpted fruit-like object, metallic and beautiful; the object floats up from the hand into flashing light, then settles down into the hand, which is itself being pressed down by gravity twice that on earth.
- Inhabiting an adaptive optic in the form of a mirrored sphere, the artist will fuse his body with space, light, and gravity as these elements oscillate throughout the parabolic flight. This experience will be recorded via multiple cameras as well as the artist's memory, and will be used to produce ground-based works inspired by the experience.
- Another team of artists will conduct ongoing research into the creative possibilities at the confluence of art and science by emphasizing aspects of transpersonal psychology and its significance for creative practice. Transpersonal communications will take place between two artists, using standard Ganzfeld procedures. During the flight the team will also create, in collaboration with the Noetics Institute, one 'auratic distortion' using digital aura photography on a number of the participating artists on board
- A robotic 'artificial being' reads incoming digital information gauging the artist's cerebral activity while creating a symbiotic feedback relationship between the artist and the floating robotic sculpture
- Synchronized Platform Diving is a new athletic event that debuted in the Sydney 2000 Olympic Games in which two divers dive off a 10 meter platform at the same time. These athletes have an unparalleled understanding of creating motion in free fall and we believe there to be great choreographic and artistic potential in using a pair of these athletes as dancers working in microgravity during our parabolic flight
- Another interactive performance in weightlessness will describe a 'mimetic gift' that is capable of making the many 'one' while exploring the flight teams experience of microgravity and its effects on their empathic abilities and mind-reading skills
- New video imaging technologies developed by scientists, such as panospheric lenses that provide images in 360 degrees, will be investigated as alternative means for documenting space art and parabolic flight

## SPACE ART HISTORY

Projects flown on the parabolic flight will expand and enrich, for international audiences, the traditional notion of Space Art, such as the compelling works created by members of the International Association of Astronomical Artists (IAAA) that celebrate the achievements, the technologies, discoveries and visions of the space industry to date.

To expand upon the historical precedents of traditional space art forms such as: painting, drawing and illustration, a new breed of Space Artists has arrived on the scene, some of whom combine artistic methodologies with the technologies utilized by space science and the space explorer, while in partnership with scientists their collaborative teams are expanding the cultural utilization of space exploration in ways that will fascinate a new generation of space explorers to dream and become inspired with the possibilities of their future lives in space.

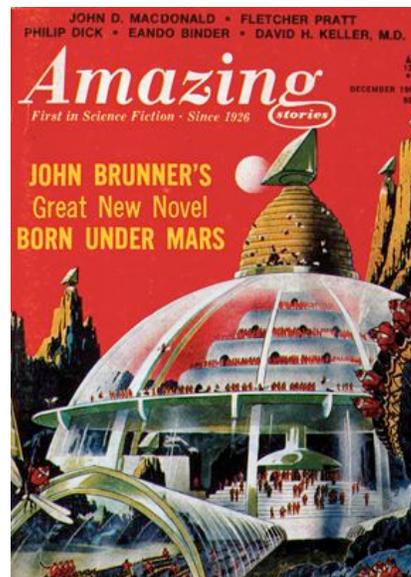
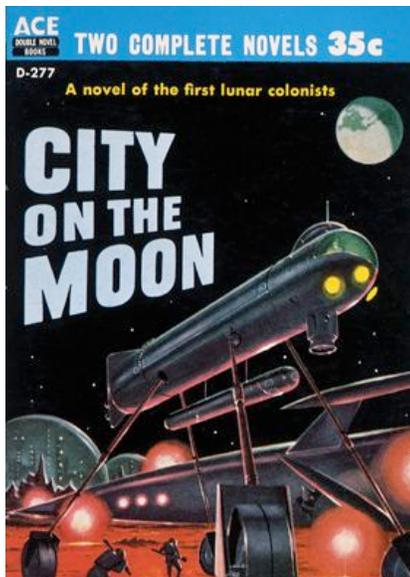
To fortify connections to Space Art history and expand the education value of the Space Art Track, artists representing the International Association of Astronomical Artists (IAAA) will present their artwork during a Space Art Exhibition to be held in conjunction with the Space Art Track and the proposed ZGAC Parabolic Flight For Artists. Showcasing the art created by members of IAAA will establish the historical context of Space Art with such presentations by IAAA members offering a rich contrast to the new works created by the Space Artists flying on the ZGAC Parabolic Flight for Artists sponsored by YOU!



## PARABOLIC FLIGHT THEATRE

5 seats on the flight be reserved for a theater audience as a way of fortifying the relationship between audience and artists. A 'Theatre Ticket' will be sold for each audience seat as one way of generating revenue for the project. Marketing the flight in such a way may prove to facilitate unforeseen benefits for sponsors and affiliate institutions as well as set the stage for microgravity and space tourists' theatres of the future.

If this is the first theatre in parabolic flight and if demand proves to be attractive to Zero Gravity Corporation; then, future flights could be arranged and sold as "theatre" with various artists performing new works and projects. This theatre will connect the project to Los Angeles entertainment industry and will amplify the importance of entertainment in space as well as infer a future when performances in orbit will be a common occurrence for all space tourists. Theatre and all other forms of culture will give the space tourists more reasons to want to travel to space.



## SPACE ART TRACK PROPOSED SPECIAL PROJECTS

In addition to the ZGAC Parabolic Flight For Artists, the following Special Projects are proposed to take place in conjunction with the Space Art Track and ISDC. We are seeking sponsors for each of these Special Projects and if you have interest in sponsoring any of these opportunities please contact Lowry Burgess or Frank Pietronigro.

## **ISDC SPACE ART EXHIBITION**

May 4 – 7, 2005

Sheraton Gateway Hotel at Los Angeles International Airport, Los Angeles, CA

Produced in affiliation with International Association of Astronomical Artists, the STUDIO for Creative Inquiry at Carnegie Mellon University, Space Art One and the Zero Gravity Arts Consortium

Exhibition Committee Members: Lowry Burgess, Sam Coniglio, Lorelei Lisowsky, Jon Ramer, and Jean Luc Soret

The Exhibition Committee of the ISDC2006 Space Art Exhibition proposes to build partnerships with international curators, space agency officials and cultural representatives to curate and install a multifaceted presentation that will offer a historical overview of the development of traditional and contemporary space art works from artists representing the international space art community past and present. Media will include video, paintings, multimedia, illustrations, drawings, space art project documents and artifacts.

Specifically, the Exhibition Committee proposes to feature:

- **THE ARTISTS' UNIVERSE**

The Artists' Universe is a juried traveling exhibition of 32 astronomical artworks by 25 artists reflecting various representative media, subject matter, and styles of International Association of Astronomical Artists. Jon Ramer of the IAAA will curate this exhibition component. The goal of The Artists' Universe is to evoke a fresh excitement about astronomy and space exploration and to increase interest in the appreciation of astronomical art. The Artists' Universe will introduce visitors to both the art and science of astronomical illustration. The exhibit experience will instill in them a new realization that artworks in this genre are not mere fantasy; they require disciplined study, meticulous rendering, and they can be essential extensions of a very real and rigorous science. To see some of the actual art works that will be included in the exhibition please visit:

<http://www.iaaa.org/exhibit/art-univ-index.html>

## ISDC SPACE ART EXHIBITION (CONT'D)

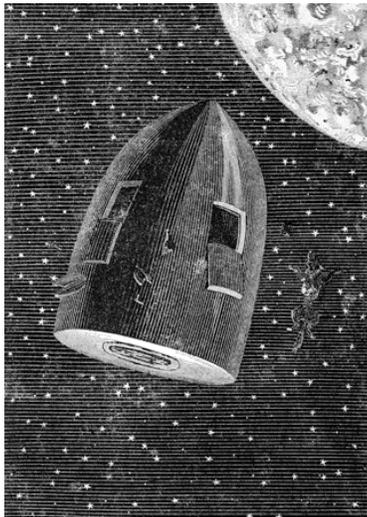


Reflections by Be Johnson

- ZGAC Parabolic Flight For Artists - an installation of the artifacts, project documents and live video of the Zero Gravity Arts Consortium Parabolic Flight for Artists will also be included in the exhibition. Lorelei Lisowsky, Assistant Project Director of the Zero Gravity Arts Consortium, will help curate this portion of the ISDC2006 Space Art Exhibition.
- Video from Europe's International @rt Outsiders Festival Space Art Exhibition and Symposium an historic Parisian museum exhibition featuring many works by contemporary space artists including video of artworks actually taken into space as well as video documentation of space artwork that inhabits microgravity environments. This portion of the exhibition will be curated by Jean Luc Soret, President of Space Art One and Curator of International @rts Outsiders Festival.

## ISDC SPACE ART EXHIBITION (CONT'D)

- Science Fiction / Technology Fact – selected works from a European Space Agency’s exhibition based on a study that was carried out by Maison d’Ailleurs in Yverdon-les-Bains, Switzerland, which houses one of the world’s largest collections of science fiction literature in the world. “Artwork has played an influential and central role in science fiction literature. It has partly defined the scope of the genre and has brought the startling and imaginative visions of outer space, exploration of other worlds, interplanetary spaceflight and extraterrestrial beings into the minds and consciousness of the general public. In magazines and books, film and television, advertising and video, the artist’s vision has transformed words into dazzling and compelling images that still life the spirits and brighten the soul.” The exhibition juxtaposes images of what say the space station actually looks like today compared with how artists many years ago imagined they might appear, long before they were on the drawing boards and even before the first satellite had been launched. Exhibition component facilitated by David Raitt, Senior Technology Officer, European Space Agency.



*Science Fiction*



*Technology Fact*

## **LIVE INTERACTIVE WEBCAST**

A further level of concept development for Zero Gravity Arts Consortium (ZGAC) Parabolic Flight for Artist: Gravity Pulse is a interdisciplinary new media project called DataFlux – The Third Space a collaboration of artists and engineers who will facilitate a live interactive webcast from inside a jet flying roller-coaster parabolas between 24,000 and 34,000 feet over the Pacific Ocean. Flying from Los Angeles International Airport, DataFlux will offer multiple interdisciplinary multicultural space art projects that will serve as the subject matter for interactive webcasts, video documentaries and other publishing projects

The goal of this webcast is to enrich an international audience's understanding of the sensations artists feel during parabolic flights, and to educate larger audiences to the diversity of space art projects and plans for the cultural utilization of space. This dynamic interdisciplinary live interactive webcast with music, audio and biometric data feeds will extend this unique space artists 'theatre' to international audiences who will experience the flight virtually through a the live interactive webcast.

David King, of General Orbital Corporation, and Gavin Starks, the Founder and Director of Exequo Ltd, an open, non-profit, collaborative Internet broadcasting network working with community collectives and artists, will support the production of the webcast. Gavin Starks is Founder and CEO of Tornado Productions Ltd. a company that is involved in every aspect of creating and running one of the largest webcasting companies in Europe. He is founding member and now Chairman of the IWA-Europe, a consortium encouraging all forms of broadcasting on the Internet.

ZGAC also proposes to work in partnership with scientists, engineers, psychologists, programmers and other technicians at Carnegie Mellon University and other educational institutions to develop new technical systems that combine robotics and multimedia to create future ground-to-zero gravity-to-internet interactive connections so that a webcast audience can interact with the space artists and impact the art being created, in real time, on this parabolic flight.

## **DataFlux – The Third Space Jet To Ground - From Sky To Earth**

DataFlux is the structuring of extraordinary potential to map multiple parallel data flows by scanning the human body from the outside and inside as it fluxes upon the parabolic waves from 1G to 0G to 1G to 2Gs to 1/6thG and so on, repeating again and again, within the envelope of the jet.

DataFlux is the imaging of the 'data-halo' that surrounds the jet and the artists creating during flight. Flows of data, from these onboard DATA CREATORS are transmitted by sensing technologies mapping the activities of sight, sound, touch, thermal, movement, taste, smell, as well as reactions of the heart, brain, and general biometrics. All in a continuous DataFlux that has important correspondences, a fugue or multi-voice score will be co-created fostering many interacting data voices that can be simultaneously displayed, digitally modified then presented and further studied. Raw data will be archived in a database and will be further developed as extended art forms by affiliate institutions and data-imaging artists not only during the flight, but also as live interactive webcast or used for scientific research and art making at a later date. The ZGAC Parabolic Flight for Artists: Gravity Pulse develops the holistic opportunity to creatively image these simultaneous data flows by new kinds of artists during live interactive webcasts originating from affiliate institutions.

Within Zero Gravity Corporation's Boeing 727 aircraft, the DataFlux project builds and structures an externally sensing architecture both physical and electronic as if the normal sensorial were turned inside out forming a sensing cylinder around the gravitationally activated human core pulsing upon and within the parabolic gravity waves. The human being in multiple states of gravity is the object of the sensing, being sensed from both inside and out. DataFlux is the technological sensing architecture that surrounds the Gravity Pulse flight. This DataFlux is both processed on board by DATA CREATORS and on the ground by DATA USERS via a DATA SERVER.

Within the parallel ground station space (laboratory/exhibition) the multiple data flows are reformed as image, sound and movement, light and pulse -- a living envelope around the participants that places their sensorial systems within the living real-time Data Flux being experienced by the parabolic flight team. Within this DataFlux synaesthetic envelope the participant will tele-replicate the Gravity-Pulse experience to webcast audiences via live interactive webcasts emanating from their respective institutions. Beyond this tele-direct experience of microgravity space, the DataFlux databank, containing raw data gathered during the flight, will be used for further research in science and art while providing new imaging experiences to webcast audiences who experience DataFlux during live interactive and post production DVD projects. All content of the databank will serve as the basis for new artistic projects.

## **THE THIRD SPACE IN THE AIR - ON THE GROUND - VIRTUAL**

### **DATA CREATORS - DATA SERVERS - DATA USERS**

#### **DATA CREATORS**

The Zero Gravity Arts Consortium Parabolic Flight In-Flight Artistic Teams will support the project as DATA CREATORS while Golden Star Productions provides all video documentation of the process, mixing the data into a video, audio uplink to a satellite in support of DataFlux webcast. DATA CREATION will be facilitated in collaboration with Lowry Burgess, Frank Pietronigro, Celestine Star, Gavin Starks, David King, and others TBD.

#### **DATA SERVERS**

Webcast service providers (Exequo, the Open Broadcast Network, London, United Kingdom) will serve raw data from the jet to the DATA USERS

#### **DATA USERS**

will include individual artists, scientists and multiple international institutions collaborating with the Zero Parabolic Flight for Artists: Gravity Pulse through the execution of personal work conceived, developed and presented from their various individual and organizational websites, offering the live and Interactive portion of webcasts produced by various DATA USERS. 3D modeling, video, text based, audio, gaming and other new media projects are encouraged and welcomed. Websites created by all DATA USERS will be posted on each website, in addition to the ZGAC website, the STUDIO, National Space Society, the Planetary Society and/or the ISDC websites.

#### **DATA USER INSTITUTIONS**

A variety of international affiliate and collaborating institutions may access the data on the servers in order to create new projects based on the data created by the DATA CREATORS. Institutions such as:

The National Space Society and/or The Planetary Society  
Gallery, STUDIO For Creative Inquiry, Carnegie Mellon University  
Golden Star Productions  
Goianesia Communities, Brazil  
ItauLab - Itau Cultural Institute, Sao Paulo, Brazil  
Japan Aerospace Exploration Agency, Space Environment Utilization Center,  
Utilization Planning and Integration Office, Japan  
Leonardo Space Arts Working Group  
New York University, Interactive Telecommunications Program, United States  
San Francisco Art Institute, Center for Art+Science, United States  
University of California Santa Barbara Media Arts and Technology Department  
University of South Carolina, Art Department, United States

## **SPECIAL VIP RECEPTION AND SPACE ART PRESS EVENT**

Proposed to take place at the Space Artist Flight Team Staging Area On the Eve of Departure of Gravity Pulse Parabolic Flight

Exact Date and Location: TBD

We propose a special ISDC VIP reception and press event take place on the evening prior to flight, at the Space Artist Flight Team Staging Area at the airport, so that the press and other VIPs can experience first hand the work of the Space Artist flight team prior to their historic ventures in weightlessness.



Blue Ice by M. Garlick

### **Space Art Track Los Angeles Area Banner Program: Science Fiction / Technology Fact**

To fortify the connection between the Space Art Track and the host city Los Angeles we propose that a sponsor consider supporting the placement of banners throughout the Los Angeles Area based on the Space Art Track Exhibition component: **Science Fiction / Technology Fact** – selected works of a European Space Agency’s exhibition based on a study that was carried out by Maison d’Ailleurs in Yverdon-les-Bains, Switzerland, which houses one of the world’s largest collections of science fiction literature in the world.

## Space Art Track Screening

Members of the international space art community, space artists, film studios and other media producers will have an opportunity to raise the level of awareness about their organizations and space projects as well as inspire the scientists, space agency officials, space tourism advocates, conference attendees and other key stakeholders who will be participating in the 25<sup>th</sup> International Space Development Conference during a proposed Space Art Track Screening that will feature works produced in film and video.

The Space Art Track Screening will be organized in part by Georges F. Singer and colleagues Andrew Polli and Jean Luc Soret.

Georges Singer is a professor and researcher with the design department of Université du Québec à Montréal, founded ECHO, a multimedia technology research and development centre. ECHO is dedicated to research and design in the field of new sound and image technologies, the Centre takes a multi-disciplinary approach to research into such varied areas as telecommunications, virtual reality, multimedia, 3D animation, etc.

For more information please visit:

<http://www.echo.uqam.ca>

Andrea Polli <[www.andreapolli.com](http://www.andreapolli.com)> is an electronic media artist in New York City and Director of the MFA Program and Associate Professor of Integrated Media at Hunter College. Her art work resides in the intersection between art and science, and she has developed several projects in the interpretation and presentation of data produced by natural systems. She has explored weather and climate change through art projects in collaboration with meteorological and climatological scientists including the Climate Research Group at the NASA Goddard Institute and Columbia University.

## **SPACE ART EDUCATION**

To expand the educational value of Gravity Pulse and to publicize the work created by artists during the flight, multiple historians, writers, art curators, videographers, photographers and other cultural documentarians will be onboard to document the flight using multimedia, video and other technology. This documentation will be used to educate larger audiences to these interdisciplinary collaborations and the information will be showcased during subsequent exhibitions, published on websites and presented at future international conferences. We welcome sponsor ideas on helping with the distribution of these educational materials.

An interactive webcast will be broadcast direct from the ISDC2006 Space Art Track as a way of extending the reach of our project to worldwide audience and to enrich the educational value of the ISDC2006 Space Art Track, Exhibition and Parabolic Flight. The website and webcast will expand access for an international audience to the track participants and their projects, affiliate organizations and exhibition. This event will provide opportunities to educate international audiences to access, contribute to and learn about the cultural utilization of space. This live interactive webcast will be produced in partnership with Exequo, the Open Broadcast Network, located in London and General Orbital Corporation and other Affiliate / Collaborating Institutions. We welcome ideas from prospective sponsors on how your organization can participate in this exciting space adventure.

## **SPACE ARTISTS STUDIO SEMINAR**

### **At the STUDIO For Creative Inquiry, Carnegie Mellon University**

An educational Space Artists Studio Seminar will be conducted by the STUDIO For Creative Inquiry in partnership with ZGAC's Space Artists Education Program as a way to prepare and train the space artists for flying on the ZGAC Parabolic Flight For Artist scheduled to fly in May 2006. Carnegie Mellon University students, attending the seminar, will mentor with 'seasoned' space artists and they will also fly projects of their own choosing during the flight. Lowry Burgess, Frank Pietronigro, Lorelei Lisowsky, Bradley Pitts and others will prepare the curriculum while teach and mentoring students during the seminar.

## **INTERGENERATION COLLABORATIONS**

In addition to flying with a student team from Carnegie Mellon University, it is proposed that a second teams of San Francisco Art Institute students also fly projects as a way of enriching intergenerational collaborations among seasoned space artists and a new generation of space explorers.

## **ADDENDUM**

### **SPACE ART TRACK SPONSORS**

#### **The National Space Society**

The National Space Society (NSS) is an independent, international, educational, grassroots nonprofit 501(c) 3 organization dedicated to the creation of a space faring civilization. The NSS has more than 22,000 members, and 75 chapters in the United States, Canada, Mexico, Australia, Germany, Ireland, and the United Kingdom. The NSS, founded in 1974 by Wernher von Braun, is widely acknowledged as the preeminent citizen's voice on space.

[www.nss.org](http://www.nss.org)

#### **The Planetary Society**

The Planetary Society, founded in 1980 by Carl Sagan, Bruce Murray, and Louis Friedman, inspires and involves the world's public in space exploration through advocacy, projects, and education. Today, The Planetary Society is the largest and most influential public space organization group on Earth. Dedicated to exploring the solar system and seeking life beyond Earth, The Planetary Society is non-governmental and nonprofit and is funded by the support of its members.

[www.planetary.org](http://www.planetary.org)

#### **STUDIO For Creative Inquiry**

##### **College of Fine Arts, Carnegie Mellon University**

The STUDIO is a center for experimental and interdisciplinary arts in the College of Fine Arts at Carnegie Mellon University. Founded in 1989, the STUDIO connects artistic enterprises to academic disciplines across the Carnegie Mellon campus, to the community of Pittsburgh and beyond. The STUDIO's mission is to support creation and exploration in the arts, especially interdisciplinary projects that bring together the arts, sciences, technology, and the humanities, and impact local and global communities.

[www.cmu.edu/studio/](http://www.cmu.edu/studio/)

#### **Zero Gravity Arts Consortium**

Zero Gravity Arts Consortium (ZGAC) is a international space arts organization dedicated to fostering greater access for artists to space flight technology and zero gravity through the creation of international partnerships with space agencies, arts organizations, corporations and leading universities. Based in the United States, ZGAC is the first organization of its kind, facilitating parabolic flight projects that will set the stage for teams of artists to have permanent access to space transportation systems such as the International Space Station.

ZGAC supports international outreach and space arts conference programs as a way for artists from all over the globe to affiliate with us and experience the possibilities of collaborating with space flight technologists.

[www.zgac.org](http://www.zgac.org)

### **Zero Gravity Corporation**

Zero Gravity Corporation (also known as ZERO-G) is a Fort Lauderdale-based company that operates weightless flights. The company operates a modified Boeing 727 which flies parabolic arcs similar to those of NASA's KC-135 Reduced Gravity Aircraft. Ansari X Prize Chairman Peter Diamandis is the Co-Founder, Chairman, and Chief Executive Officer of ZERO-G.

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

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California Space Grant Consortium, United States  
ECHO: Center for Experimentation and Development in Multimedia Technologies, Canada  
Exequo, the Open Broadcast Network, London, United Kingdom  
European Space Agency's Hubble Office  
Foundation for Space Exploration, United States  
General Orbital Corporation, United States  
Golden Star Productions, United States  
Goianesia Communities, Brazil  
Hunter College, Department of Film and Media, United States  
International Association of Astronomical Artists  
ItauLab - Itau Cultural Institute, Sao Paulo, Brazil  
Itau Cultural, Brazil  
Japan Aerospace Exploration Agency, Space Environment Utilization Center, Utilization Planning and Integration Office, Japan  
Lateq/UnB – Laboratory of Applied Chemistry from the University of Brasilia, Brazil  
Leonardo / OLATS, France  
Leonardo Space Arts Working Group  
Massachusetts Institute of Technology, Department of Aeronautics and Astronautics, United States  
Maison d'Ailleurs, Switzerland  
New York University, Interactive Telecommunications Program, United States  
Philcorp, United States  
Rijksakademie van beeldende junsten, Netherlands  
San Francisco Art Institute, Center for Art+Science, United States  
Skedio, Brazil

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United States

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Zavod Projekt Atol Institute, Slovenia

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European Night by M. Garlick

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TBD  
Concierge In-Flight Audience Service

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Exhibition Committee Liaison, Peer Review Committee Liaison



Extragalactic by M. Carroll

## **SPACE ARTIST FLIGHT TEAMS AND PROJECTS**

(SEE BELOW FOR ADDITIONAL INFORMATION ABOUT EACH ARTIST AND THEIR PROJECTS)

### **Lowry Burgess and Kristen Burgess Agee**

Moments in the Infinite Absolute  
United States

### **Tania Fraga, Frank Pietronigro and Gavin Starks**

Gravity Fluxions: Pulsations  
Brazil, United States and United Kingdom

### **Japanese Artist**

Project Title: TBD  
Country: Japan

### **Lorelei Lisowsky and Lowena Hearn**

Skylife Colony (Evolution Colony Testbed) by Bright Capsule  
United Kingdom

### **Otto Piene**

Project Title: TBD  
Germany

### **Bradley Pitts**

**Singular Oscillations**  
United States

### **Chris Robinson**

**Observing**  
United States

### **Ricky Seabra**

Bodies of Water and the 'Skipping Halls' in Lunar Gravity  
The Netherlands

### **STUDIO For Creative Inquiry Artists Team**

Project Titles: TBD  
Team Members: TBD  
United States

### **Martha Blassnigg and Michael Punt**

Project Titles: Beyond the Ubiquitous Spectrum  
United Kingdom

## **FLIGHT OPERATIONS**

The jet will be divided into 7 equally spaced 9-foot long 'staging areas' running down the length of the jet. Some of the staging areas will accommodate more than one team of artists. Each staging area will have a unique schedule or 'script' for all artists creating within that staging area to follow with each script identifying: tasks, participants, technology required, etc.

A flight profile of 40 parabolas is requested (35 parabolas in 0G, 5 parabolas in lunar gravity) so that each team gets to fly 15 parabolas. In some cases, the staging area will be divided for use by multiple team projects and artists, when each of those teams do not require the use of a full 15 parabolas each. If Zero Gravity Corporation cannot accommodate 40 parabolas during the flight; then, the total number of parabolas flown will be divided in half and that number of parabolas will be utilized by each of the parabolic flight teams.

Staging areas on the jet will be allocated according to project technical requirements, project schedules and artistic needs. It will be requested that one staging area remain dark, with black plastic tarp tapping off that area so that ultraviolet light can be utilized in that staging area for documenting a project.

## **ABOUT PARABOLIC FLIGHTS**

### **How does parabolic flight work?**

Specially trained pilots fly the parabolic flight maneuvers between approximately 24,000 and 32,000 feet altitude. The maneuver is somewhat like a roller coaster in that the plane is initially pulled up to approximately 45 degrees 'nose high.' Next the plane is 'pushed over' to begin the zero gravity segment of the parabolas. For the next 25 – 30 seconds everything in the plane is weightless. At approximately 30 degrees 'nose low' a gentle pull out is started which allows the participants to stabilize on the aircraft floor. Finally, the g-force is increased smoothly to about 1.8 g's until the aircraft reaches a flight altitude of approximately 24,000 feet. The maneuver is then repeated.

## **ABOUT THE AIRCRAFT**

### **How does the Boeing 727 compare with NASA's KC-135?**

- The Boeing 727 is nearly identical in size and volume to NASA's KC-135 with a larger cargo door (140" x 86") and an approximately 70+ foot long area for experiments or floating.
- The Boeing 727 is also a new aircraft, on the average about 20 years newer than the KC-135.
- The Boeing 727 cargo aircraft has a built in pallet handling system that allows different interiors to be quickly loaded and unloaded to accommodate various customers.

## **FLIGHT DOCUMENTATION**

Each of the staging areas on the jet will be equipped with camera mounts with stationary digital video cameras supplied by the artists and the project documentation team. Multiple video cameras will also be rented for use by project videographers, accommodating two hours of taping per camera.

Each flight team will be encouraged to attach their own cameras to the camera mount and augment project documentation activities. Video shot by participating artists will remain the property of the artists.

These video data feeds will be integrated into a post-flight webcast as described below.

## **ABOUT ZGAC PARABOLIC ARTISTS FLIGHT TEAMS AND THEIR PROJECTS**

Of the artists slated to fly on this ZGAC Parabolic Flight, four have previous experience in parabolic flight including: Lorelei Lisowsky, Frank Pietronigro, Bradley Pitts and Chris Robinson. Lowry Burgess had his artwork taken aboard the Space Shuttle 'Discovery' as a purely artistic initiative becoming the first non-scientific payload in NASA history. Pietronigro is the first American painter to create "drift paintings" where his body floated within a three-dimensional painting that he created in zero gravity aboard NASA's KC135 turbojet in April of 1998.

Participating artists come from diverse disciplines, including choreography, performance, the visual arts and aerospace engineering. However diverse, these artists share the belief that integrating artistic production into long-term space missions will keep the human spirit alive as we travel through space.

### **Martha Blassnigg and Michael Punt**

Project Titles: Beyond the Ubiquitous Spectrum  
United Kingdom

This project concerns the tracking of changes in the shift of the normal spectrum of forces that we are accustomed to in particular looking at auras and soundscapes that are normally so familiar as to be invisible. In an environment in which there are extreme variations in gravity and acceleration, we expect in this series of artistic and transpersonal experiments to show how a slight shift in the dynamics in the forces that surrounds us will reveal presences and changes that we are familiar with. This project builds on the validated experiences of certain individuals, in particular artists who are sensitized to reach out into dimensions beyond the normal spectrum of perception and who are also alert to changes in their own sensorium as part of their artwork. The experiments described below

are going to be conducted amongst the flight team during the flight and involving photographs to be taken of other willing participants before and after the flight.



Electrograph of Hand by Len Massey

Our research group will comprise three multi-skilled artists experienced with working with technologies of extended spectra who will use instruments and personal sensitivities to record images, sounds and sensations that lie beyond normal experience. In the cycle of both weightlessness and amplified gravity we will be drawing on technologies based on modified forms similar to Kirlian photography, sensitive audio recording machines, visual filters pioneered by Dr. Kilner applied to still and Video cameras, and furthermore catalysts for interaction used in professional transpersonal consultations such as a Random Number Generator developed by the Institute of Noetic Sciences, crystal pendulum, etc. We will compile a portfolio of data beyond the ubiquitous spectrum, which will be valuable to both the artists involved and the research team who will be videoing the whole process as part of a film project.

#### Project Goals/Artistic Objectives:

Our main goal is to produce a series of images and sounds that document possible shifts and changes beyond the ubiquitous spectrum. The emphasis lies on aspects of transpersonal psychology and its significance for creative practice. Transpersonal psychology in this context is the study of those states and processes in which people experience a deeper sense of who they are or a greater sense of connectedness of others, with nature or the spiritual dimension.

Consistent with our original proposal and the work with our Mars Patent project we are testing the possibility that this dimension may be influenced significantly by gravity. We will conduct a series of experiments amongst the flight team to test this hypothesis and expect to publish the outcomes as an artwork with which people are invited to connect with. In this way it is hoped that we may even produce artworks that, as they emerge from microgravity, will have particular resonance for those scientists and workers who spend extended periods on the internal space station.

Broadly speaking we will use the cycle of parabolas to test

- (1) auratic distortion using digital aura photography amongst the flight team and if possible on a number of the participating artists on board
- (2) transpersonal communication between subjects of the flight team using standard Ganzfeld procedures between the two main researchers of this proposal
- (3) measuring the impact of gravity on standard catalysts for interaction used in professional transpersonal consultations (e.g. Tarot, Random Number Generator, crystal pendulum)

Along with debriefing data will be examined subsequently to produce a brief textual report to accompany a Mnemosyne atlas of the event. (The idea of the Mnemosyne atlas it taken from the art-historian Aby Warburg's early 20<sup>th</sup> century visual method which he used to substantiate his claim that art springs from deep impulses which are independent of the specificities of time and culture.

With the materials and recordings gathered before, during and after the flight we will build a portfolio of these visual and auditory records for an exhibition at the Royal College of Art in London. The work will also constitute material for an article in a leading journal possibly *Leonardo*. Finally this project is seen as a pilot for a more ambiguous future project in space to investigate this further.

### **Lowry Burgess and Kristen Burgess Agee Moments in the Infinite Absolute United States**

Burgess's monumental work, 'The Seed of the Infinite Absolute' will float in microgravity above Los Angeles, generating brilliant flashes of light as it transits from 0G to 2Gs. It is formed by an elaborate series of processes and distillations created, in different global climates, over the past 25 years. Its shell, a geometrically complex, hand size 'seed' is a fusion of the 12 'royal' metals. It contains a unified emulsion of the essences of 44 trees, 52 flowers, 36 waters, 32 bloods and 120 telepathic hopes representing, in essence, the entire Earth. All these elements are unified into one essential, hand-held form to be 'released' by the artist at the edge of the absolute state of micro-gravity.



The Seed of the Infinite Absolute by Lowry Burgess, 2005

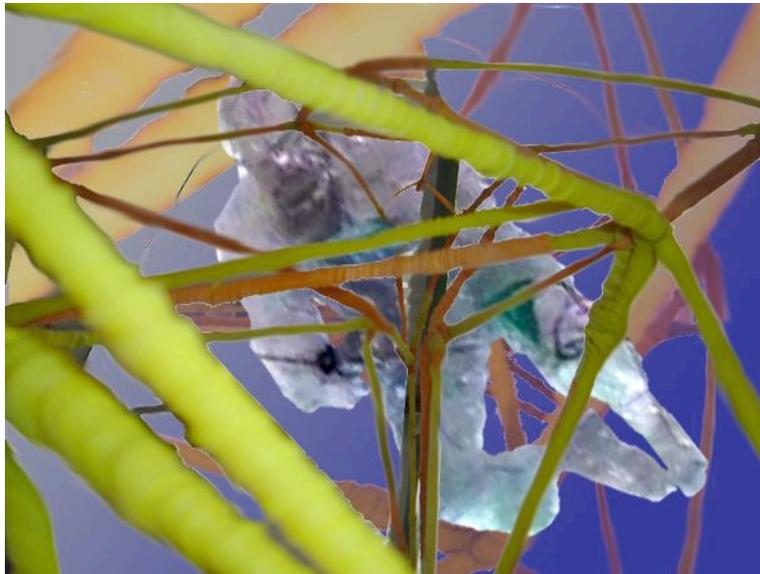
The concept for this artwork in micro-gravity is the simple gesture of release from a human hand of the hand-sized form of "the Seed of the Infinite Absolute" into repeated moments of weightlessness (moments of 'equant' balance) and double-density/double-gravity weighted ness. (It is actually quite a dense and heavy small pear sized object). At the moment of its weightlessness, it flashes with bright white stroboscopic light (the flashing brilliance of its approach to the Absolute).

The "Seed of the Infinite Absolute" is a distilled seed-form which by its nature establishes an entity which is the unit, root, measure, proportion/portion of the single one' or the absolute unit or measure of this cosmos -- its source and end. It is the geometric and ritualistic gravitational center of a nest of infinities within the larger artwork called the "Quiet Axis".

The "Seed of the Infinite Absolute' is formed by an elaborate series of processes and distillations over the past 25 years. The shell of the 'seed' is a meld of 12 metals 'distilled' at the foot of Mount Whitney and 'poured from the sun' at twilight. This shell contains an emulsion of the essences of 44 trees, 52 flowers, 36 waters, 32 bloods and 120 hopes. In it all these are brought together into one essential form.

**Tania Fraga, David King, Frank Pietronigro and Gavin Starks**  
**Gravity Fluxions: Pulsations**  
**Brazil, United States, United Kingdom**

The artists plan to conduct, during parabolic flight, a performance testing an experimental hypothesis on the spatial behavior of a fluid rubber structure created with materials, currently being researched, that aim to be used for sustained development projects supporting small communities in the Amazon. Considered as an 'artificial organism' by the artists, the structure will grow in weightlessness, floating with the body of the artist, from total flatness to a three-dimensional volume.



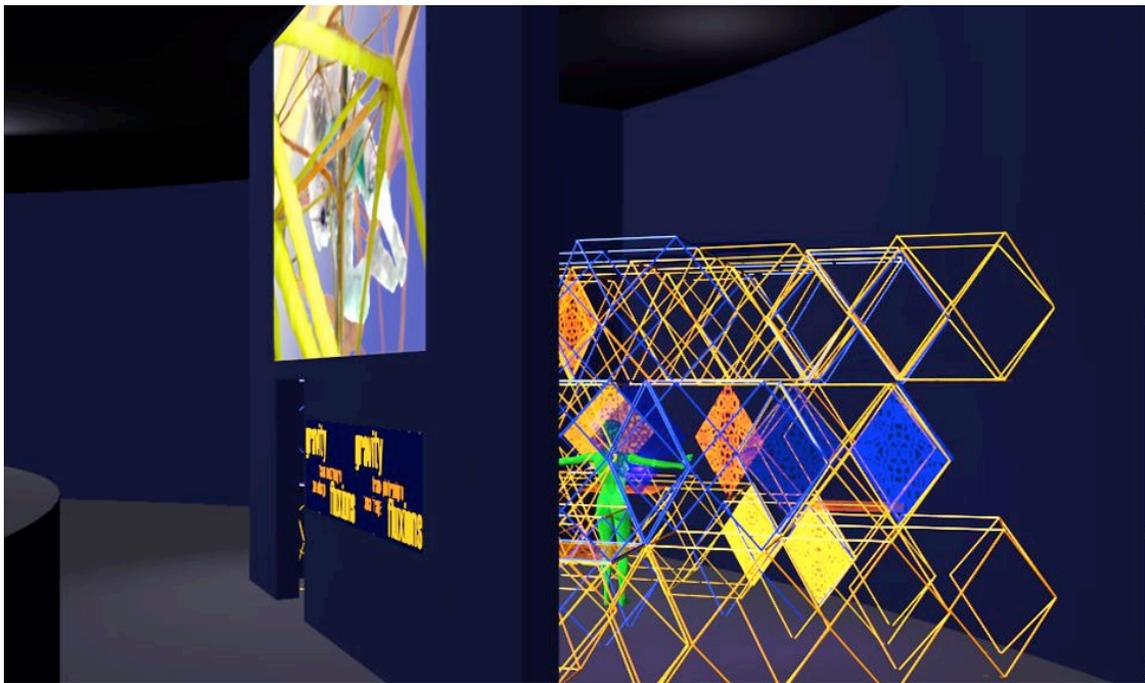
Gravity Fluxions: Simulation by Frank Pietronigro, 2005

To extend a metaphorical experience of fluidity and weightlessness to earthbound audiences, the artists can create a responsive installation as a part of the ISDC2006 Space Art Exhibition, using ultraviolet light over a responsive rubber structure embedded with programmable sensors to produce fluid movements. It is the intention of the artists that this work will reconstruct for earthbound viewers a poetic sense similar to what happens to people in microgravity: immersion, disorientation, ephemeral sensations, lack of verticality and instability.

Gavin Starks will also attempt to directly affect the shape and movement of the 'artificial being' by playing sound directly at the 'artificial being' - making it resonate at certain frequencies, while using a strobe light or high shutter-speed camera to macro-film its surface. Certainly given the fluid nature of the object

and the links with "acoustic" resonant phenomena being discovered in everything from galactic dust clouds to black holes, there are many references relative to this project convention. For example, "resonant" frequencies in cosmological models will be experimented with as the artists will take "standard 3d visual references" for cosmological models, such as the "saddle" topology and then create some form of resonance to change this topology into something else using the memory of the material contained in the 'artificial being'. Even a planar surface of the 'artificial being' would yield an interesting, malleable aesthetic.

Depending upon the fluidity of the 'artificial being' the artist intends to encourage a significant spatial change and / or shorten the experiment, film it at high speed, and then replay the effect slowly.



Gravity Fluxions: Simulation, A View of the installation showing audience interacting with the 'Artificial Being'  
Project Visualization by Tania Fraga

When asking why and how the artist's role may influence space exploration and how the presence of artists impacts various technologies and issues associated with human space travel, while also considering the questions as to why humans should go into space at all when it is cheaper and easier to have space explored by robots; we began to see an answer emerging that infers the imperative to carry our human sensibilities and sensitivities out to space, something the robots of our time cannot do. Our project sets up a contrast and a complimentary bridge between an 'artificial being' and human beings with the intention that an ISDC2006 audience will also reflect upon such questions. Since artists are not

constrained by methodologies that may inhibit free speculations and their subjectivity is trained to explore its own mind realm, the objective and subjective sides of knowledge become more balanced through such art and science collaborations.

Project Affiliate Institutions include: Exequo, the Open Broadcast Network, United Kingdom; General Orbital Corporation, United States; Goianesia Communities, Brazil; ItauLab - Itau Cultural Institute, Sao Paulo, Brazil; Itau Cultural Institute; Lateq/UnB – Laboratory of Applied Chemistry from the University of Brasilia, Brazil; Philcorp, United States and Skedio Technologies, Brazil.

**Lorelei Lisowsky and Lowena Hearn**  
**Skylife Colony (Evolution Colony Testbed)**  
**By Bright Capsule**  
**United Kingdom**

A mother and daughter share a morning in microgravity space.

An interactive performance describing a manifesto for life without gravity and a path to return to nature. A participatory site-specific action using the body as instigator. A mimetic thought gift that is capable of making the many 'one' by exploring our empathic abilities and mind-reading skills and connective ness of the floating group through touch.

The performance starts within a fabric bubble and then moves around the plane. Inside a floating, tencile, bubble, the girl speaks into a small microphone recording her experience. As the bubble falls and collapses the color inside the sphere changes color. As she rises again, she describes what her senses feel and a camera documents her facial expressions, the sounds of breathing and speech. On the third parabola, she breaks open the bubble and enters the shared space. A question is asked to another flyer and is answered accordingly, then that person asks the same question to the next person etc. The 'q and a' is passed between every person on the flight and is recorded and accompanying the 'q and a' is a kiss exchanged between the two people. Our body consists mainly of water and the fluid body transmutes in the altered gravity condition. As gravity is alleviated, our perpendicular state becomes circular and life force energies begin to move outwards from the centre point of the body, in all directions. This adjustment of the 'flow' enables the normally 'body-centered' human to develop a wireless network of communication that spherically conducts channels of information to each of the flyers inside the parabolic plane. This is the Skylife colony that is a consensual 'Multimind' network.

*"The heart refuses to be imprisoned; in its first and narrowest pulses, it already tends outward with a vast force and to immense and innumerable expansions."*

Emerson, Ralph Waldo

**Bradley Pitts**  
**Singular Oscillations**  
United States



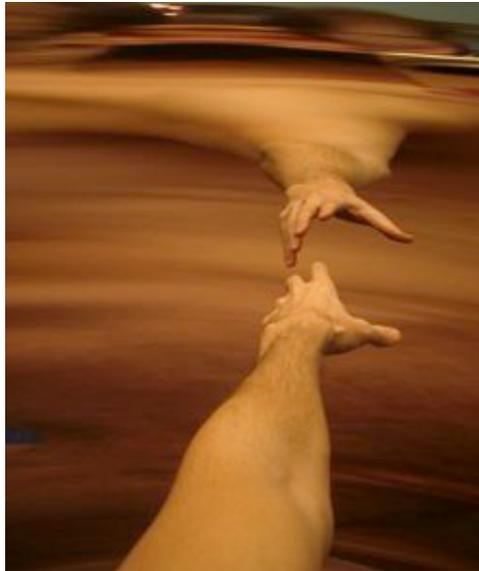
A volume responding directly to gravity oscillations. Bradley Pitts 2006.

The three-dimensional freedom provided by weightlessness has yet to be explored in its purity. Due to the disorienting nature of this environment the architectures sent to space have been designed with a multitude of reference points. While weightlessness is an isotropic environment, the designed architectures introduce “vectored” elements, setting up artificial “up’s” and “down’s.” Although such architectures create practical environments for scientific experimentation, they impose a geocentric perspective on the pristine, universal nature of weightlessness.

I am interested in experiencing this pristine environment and fusing with it. I want to melt into four-dimensional space-time and hug its curves.

In order to experience and become pure space, I will inhabit an inflated spherical mirror aboard the parabolic flight. The sphere will be designed such that under gravity it will distort under its own weight, but will return to a sphere in weightlessness. Thus the entire geometry of the enclosure will be gravity-dependent, becoming isotropic when following the natural curves of space (under free-fall/weightlessness) and vectored when that path is interrupted (under acceleration/gravity).

Because the walls are mirrored, the light inside the spheroid will be “shaped” by gravity. Inhabited by a single, nude body, the interior surface will be defined by the distorted body’s image. The experience of gravity, light, body, or enclosure will be inseparable from the rest of the elements, creating a fusion/implosion of context and experience: a singular union of the individual with space-time.



A photo from within an introspective optic. Bradley Pitts 2005.

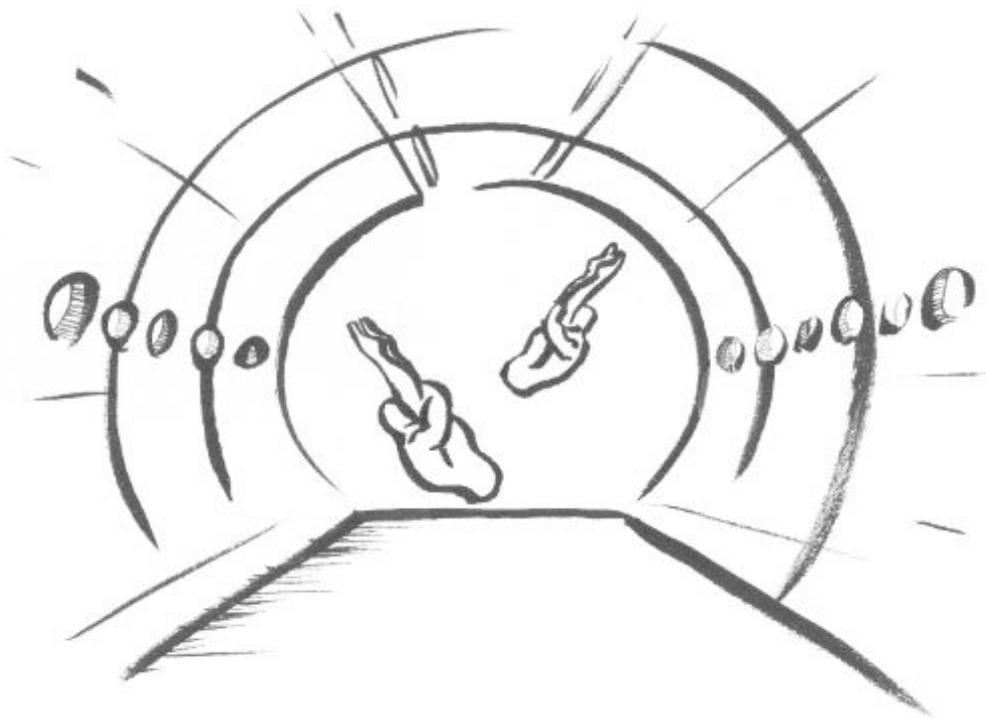
Beyond the personal experience this investigation will provide, it will be documented with video from various vantage points including 1) exterior shots of the sphere oscillating under its own weight; 2) interior shots in which the cameras are fixed to the sphere; 3) body perspective shots with cameras mounted to my body. In order to decrease the weight of the cameras and reduce the cords needed, some of these cameras will be wireless. Outside the enclosure, I will use multiple tape decks to record the feeds.

**Ricky Seabra**  
**Bodies of Water**  
**The Netherlands**

Using two 'synchronodivers' Seabra plans to create choreography in parabolic flight. creating a video of this 'dance' for incorporated into my work ISADORA.ORB. Synchronized Platform Diving is a new athletic event that debuted in the Sydney 2000 Olympic Games in which two divers dive off a 10 meter platform at the same time.

They are judged by the perfection of the synchronicity of their movements. These athletes have an unparalleled understanding of creating motion in free fall and we believe there to be great choreographic and artistic potential in using a pair of these athletes as dancers working in microgravity during a parabolic flight.

Synchrodivers are among the few athletes that have an understanding of creating motion/choreography in free fall. Normally they have 1.5 seconds to create movement. In the parabolic flight context they will have, instead of seconds, up to minutes to create movement, a situation that they may well consider paradise.



Bodies of Water: by Ricky Seabra, 2006

## **Skipping Halls in Lunar Gravity**

In a design proposal of mine entitled “Guidelines for Lunar Construction” I came up with architectural guidelines that architects, engineers and urban planners should follow for the construction of lunar bases and habitats. One architectural principal for large habitats would be to introduce ‘skipping halls’ as opposed to transport systems. Since bone marrow loss will be considerable on the moon and it would be somewhat difficult to oblige future moon inhabitants to exercise and work out, the structure of the city itself would force people to work out. Cities would be terraced and built on steep craters or hills like Mediterranean cities Competa and Santorini or like Brazilian favelas. This would force people to constantly climb steps working out the legs. The ‘skipping halls’ would be long hallways hundreds of meters long that would serve as expressways between large distances within the cities and between cities. Moon inhabitants would enter these hallways and start skipping (kind of how Neil Armstrong famously did on the first lunar landing). So for the 1/6<sup>th</sup> portion of the Gravity Pulse on the parabolic flight I would have the two athletes I am taking on board for my Bodies of Water project (along with anyone on board who would want to join in) to skip from the rear of the plane to the front and back to see what kind of height, distances and speed people achieve.

## **ABOUT THE ZGAC PARABOLIC FLIGHT ARTISTS**

### **MARTHA BLASSNIGG** **United Kingdom**

Martha Blassnigg is currently a research assistant with Trans-technology Research, at the Faculty of Technology at the University of Plymouth. Her original interests in fine arts, music, dance, photography and philosophy have converged in studying and working with film in the areas film theory, documentary, projection and restoration. In her Masters thesis of the University of Amsterdam *Seeing Angels and the Spiritual in Film: An Interdisciplinary Study of a Sensuous Experience* for the studies of Film-theory and Cultural Anthropology she has compared cinema technology with the metaphysical phenomenon of appearances. Her documentary film *Shapes of Light*, 2000, which was part of her thesis, presents four Austrian artists who express their belief in angels and mediate their own clairvoyant sensitivity in their artwork. In her latest documentary film, *Lotte Hahn*, 2004, a portrait of her grandmother’s artistic and personal life, she treats the subject of memory in its relation to time and space. The film reflects fragmented and discontinuous remembrances of her past. At several points the director attempts to rupture the flow of the narrative in order to reflect upon the way the medium film can express the transience and complexity that underlies the working of our consciousness in our interaction with

history. Before joining Trans-technology research she worked as filmrestaurer in the Nederlands Filmmuseum and subsequently in the Computer Software sector. The interrelations of metaphysical themes with aspects of technology, in particular cinema and photography, are brought together in her Ph.D project at Trans-technology Research. Drawing on evidence of claims for human extensions into other dimensions, such as in the way technology is said to provide a gateway to spirituality, the thesis examines how the historically determined concept of the angel becomes connected to the popular use of photographic and cinematographic technology. The aim of the thesis is to make a contribution to the way we think about the spiritual and metaphysical implications of contemporary technology and its popular interpretation.

*This project falls within a large scale research project by Trans-technology at the University of Plymouth to examine the epistemological implications of new technologies:*

Trans-technology Research  
[www.trans-tecresearch.org](http://www.trans-tecresearch.org)

Trans-technology Research supports both full-time and part-time PhD research undertaken on site in the Faculty of Technology at the University of Plymouth. Led from a historical and theoretical perspective its key concern is the understanding of science and technology as a manifestation of a range of human desires and cultural imperatives. In particular topics currently being researched concern the spiritual aspects of nineteenth century and digital technology, early cinema and the technological imaginary, anoetic technology, the interpretation of science and technology in popular and culture, and the historiography of technology. Trans-technology Research is currently developing a major research project dealing with the philosophical aspects of science and technology and the history of popular arts.

Trans-technology Research benefits from the presence on site of the Leonardo Reviews editorial office. <http://leonardoreviews.mit.edu/>

For further information please contact Dr. Michael Punt, Reader in Digital Art and Technology at [michael.punt@plymouth.ac.uk](mailto:michael.punt@plymouth.ac.uk)

## **LOWRY BURGESS**

### **United States**

Lowry Burgess has worked with outer space for the past 35 years. Among celebrated space artworks is his 'Boundless Cubic Lunar Aperture,' as noted, the first 'official' non-scientific payload that was taken into outer space by the NASA Space shuttle Discovery in March 1989. He is Dean and Professor at Carnegie Mellon University and Distinguished Fellow of the Studio for Creative Inquiry and

the Center for the Arts and Society. He was a Fellow of the Center for Advanced Visual Studies at MIT for 25 years.

URLs:

<http://artscool.cfa.cmu.edu:16080/~burgess/>

[http://www.cmu.edu/PR/releases05/050210\\_spaceart.html](http://www.cmu.edu/PR/releases05/050210_spaceart.html)

## **TANIA FRAGA**

### **Brazil**

Tania Fraga is a Brazilian architect and artist. She holds a PhD. of the Communication and Semiotics Program at the Catholic University of Sao Paulo (PUC). In the course of 1999, Tania developed a Post Doctoral research project at CAiiA-STAR, UK with a research grant from CAPES, the Brazilian Agency for the Improvement of Higher Education Personnel. She was Professor and Co-Coordinator of the Graduation Studies of the Art Institute at University of Brasilia, Brazil, where she is Associated Researcher. She was member of the Advisory Research Committee of the Banff New Media Centre in 2003, Canada. She was Visiting Scholar at the Computer Science Department at The George Washington University, Washington DC, 1991/1992 and Artist-in-Residence at The Bemis Foundation, USA, 1986, with a grant from the Fulbright Commission. She has been showing and publishing her work in many national and international exhibitions, lectures, workshops, seminars and congresses. Tania's current field of research is the creation of interactive cyber-worlds, for interactive stage performances and interactive art installations. They are based on 3D modeling, animation and VRML (Virtual Reality Modeling Language), JavaScript and Java 3D languages.

URLs:

[www.lsi.usp.br/~tania/](http://www.lsi.usp.br/~tania/)

[www.unb.br/vis/lvpa/](http://www.unb.br/vis/lvpa/)

[planeta.terra.com.br/arte/lvpa2002/ResponsiveSurface/](http://planeta.terra.com.br/arte/lvpa2002/ResponsiveSurface/)



**“Fluid Rubber Membrane”**

Tania Fraga, Artist

An artificial organism commissioned by Itau Cultural Institute, Brazil, 2005



**“Responsive Membrane”**

Tania Fraga, Artist - An artificial organism in the context of an installation  
commissioned by Itau Cultural Institute, Brazil, 2005

**LORELEI LISOWSKY**  
**United Kingdom**

Lorelei Lisowsky (USA/UK) is an organizer, curator and interactive artist specializing in zero gravity art performance. She holds a BFA in Interdisciplinary Art from San Francisco Art Institute (USA) (2001), and is currently applying for

Mphil/Phd study at the Institute for Digital Art and Technology (UK) in the University of Plymouth School of Technology (UK).

Her research focuses on the Transhuman potential of parabolic flight and how spaceflight can be further explored phenomenological using intuition, the senses crossing over into ubiquitous technologies. Her earlier work with community interactions has developed into virtual networks where cyberspace and material space collide creating "moist media". Involved in DIY cultural activity in London, ecological and community activity and public art projects in England and San Francisco, exhibited in both. Founder of Zero g Arts Lab in San Francisco and currently Assistant Project Director of the Zero Gravity Arts Consortium. Awarded with one year funded residency from Washington Research Institute, USA.

## **FRANK PIETRONIGRO**

### **United States**



'Drift Painting' in a Microgravity Environment, Frank Pietronigro, Artist, 1998  
(Original Video Footage: Courtesy of NASA)

Frank Pietronigro is an interdisciplinary artist, educator, and author residing in San Francisco, California. In 2004, Frank Pietronigro was appointed Associate Fellow at the Studio For Creative Inquiry at the College of Fine Arts, Carnegie Mellon University and currently serves as Co-Founder and Project Director of the Zero Gravity Arts Consortium (ZGAC), an international space arts organization that is dedicated to fostering greater access for artists to microgravity space and

space flight technology. Frank also serves as Co-Chair for the 25th International Space Development Conference Space Art Track, a conference co-sponsored by the National Space Society and the Planetary Society that will be held in Los Angeles in 2006.

He served as Co-Organizer for the 2005 Workshop on Space Artist's Residencies and Collaborations that was held at Carnegie Mellon University West at the NASA Ames Research Center at Moffett Field, California. As Project Founder of Research Project Number 33: Investigating the Creative Process in a Microgravity Environment, Frank Pietronigro became the first American painter to create 'drift paintings' while he and the painting floated in zero gravity aboard NASA's KC135 turbojet.

The artist has presented and published his work during lectures, workshops and congresses at national and international galleries, museum and other institutions including: Maison Europeenne de la Photographie, Paris, France; Biennale Internazionale Dell'Arte Contemporanea, Florence, Italy; Smart Project Space, Amsterdam, The Netherlands; Museum Fur Gestaltung, Zurich, Switzerland; Galeria Ze Dos Bois, Lisbon, Portugal; and the Atlanta Contemporary Arts Center. Pietronigro received his Bachelor of Fine Arts in 1996 from the San Francisco Art Institute in Interdisciplinary Arts and also received a certificate from the Multimedia Studies Program at San Francisco State University in 1998. He studied fine art at the Philadelphia College of Art from 1975 to 1977 and was appointed by the San Francisco Art Commission to direct the 39th Annual San Francisco Arts Festival. He also produced San Francisco's Art In The Park in 1982 and 1983.

URLS:

[www.zgac.org](http://www.zgac.org)

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

[www.kqed.org/spark/artists-orgs/spaceart.jsp](http://www.kqed.org/spark/artists-orgs/spaceart.jsp)

## **BRADLEY PITTS**

**United States and the Netherlands**

### **Artist Statement**

"The ancient mythological nexus talked about life more than anything else, whereas the whole of [Positivist, rational thought, i.e. science] concentrates on death: that is, on matter. ... the first phase of the development of human consciousness - that is, of the process of liberation - must necessarily pass through death." - Joseph Beuys

As an engineer at MIT (B.S. 2000, M.S. 2003), I dedicated much of my education to the study of physics: the study of material interactions. This study led me to

space exploration and the technologies necessary to explore with a human presence. As an artist, however, I move beyond physics to metaphysics; beyond matter to meaning. I approach my artwork as a mode of investigation/play: a bridge connecting the material with the human, the universal with the personal. In this way, I restore science and technology to a place where it can be used to investigate philosophical questions and subjective realities.

Because knowledge evolves, cutting-edge thought contains the entirety of a culture's intellectual and artistic history. Thus, at frontiers, the extremes of contemporary thought and our human origins meet. For this reason I was drawn to space exploration. As a cognitive, technological, and physical frontier, space is an arena that requires significant resources. It therefore raises questions of purpose and validation: what goal/task/endeavor is worthy of these resources? Thus far the response of western cultures has been the furthering of science/technology: the extreme of rational thought. My interests, however, concern the bridging of our material world investigations, as represented by space exploration, and our "inner world" explorations that may be represented by art. My graduate research in engineering addressed these seemingly oppositional pursuits by creating a spacesuit; a skin to facilitate inward exploration in outer space.

In my work I employ the infrastructure of technological rationalism (concepts, tools, methods, and apparatus) in order to explore personal, intuitive realities. Thus technology is not used/developed within the traditional framework of man as Creator, but man as "experiencer": a subjective being, a soul. This work leads to the development of personal, artistic explorations, as well as the development of tools capable of facilitating/creating profound expressions of human experience/freedom: art.

URLs:  
[Bradleypitts.info](http://Bradleypitts.info)

**MICHAEL PUNT**  
**United Kingdom**

Michael Punt is Editor in Chief of Leonardo Reviews a member of the Leonardo/ISATS Advisory Board, and the MIT/Leonardo Book Series Committee. He gained his PhD at the University of Amsterdam and is now a Reader for Art and Technology at the University of Plymouth and leads the Trans-technology Research Center at the Faculty of Technology. He has made 15 films and published over eighty articles on cinema and digital media in the last decade. His recent publications include a book-length study on early cinema, (*Early Cinema and the Technological Imaginary*, 2000) and regular articles on cinema history and digital technology for *The Velvet Light Trap*, *Leonardo*, *Design Issues* and *Convergence*. Between 1996 and 2000 he was a regular contributor to *Skrien*, a Dutch journal of film and television criticism, where he wrote a monthly column

on cinema, art and the Internet. His most recent book, in collaboration with Robert Pepperell, *The Post-Digital Membrane: imagination, technology and desire*, was published by Intellect Books in 2000. Its associated webpage is at [www.postdigital.org](http://www.postdigital.org). His essay 'More Sign than Star: Diana, Death and the Internet', is published in *Stars in Our Eyes - the Star Phenomenon in the Contemporary Era*, edited by Angela Ndaliansi, (Westport: Praeger, 2002). His most recent major articles include 'The Postdigital Analogue and Human Consciousness', (*Leonardo* 35 (2)) and 'A Taxi Ride to late Capitalism: Hypercapitalism, Imagination and Artificial Intelligence' (*AI and Society* (2002), *The Martian in the Multiverse* at <http://www.refractory.unimelb.edu.au/journalissues/vol3/vol3.htm>, (2003) and his ongoing project, the transdisciplinary wunderkammer, is at [www.extraordinaryconnections.org](http://www.extraordinaryconnections.org). A full list of publications and exhibitions can be found at: [www.http://people.i-dat.org](http://people.i-dat.org).

References: Please see links in the brief bios above.

Links:

[www.postdigital.org](http://www.postdigital.org)  
[www.extraordinaryconnections.org](http://www.extraordinaryconnections.org)  
[www.wirelessobscura.org](http://www.wirelessobscura.org)  
[www.vilec.org](http://www.vilec.org)  
[www.rca.ac.uk](http://www.rca.ac.uk)  
[www.stemarts.org](http://www.stemarts.org)  
[www.mars-patent.org](http://www.mars-patent.org)

## **RICKY SEABRA** **Netherlands**

Ricky Seabra is a Brazilian-American designer and performer born in Washington and raised in Brasilia. He graduated from Parsons School of Design in New York in Communication Design and has a Masters Degree in Industrial Design from the Design Academy Eindhoven, Holland where he lived for 8 years. He has been developing his theater works at the Kunstencentrum nOna in Mechelen, Belgium since 2002. He has shown his first monologue called *Airplanes & Skyscrapers* in 20 European cities and 3 in Brazil. His latest work together with Andrea Jabor is *Isadora.Orb*, *The Final Metaphor* that premiered in February 2005 and is about the poetic potential of space as a new and unexplored realm for artistic creation and presents a plan of how to get artists aboard the ISS. This piece is roughly based on his Masters Thesis in Industrial Design that proposed an actual design for an Art Module, an orbital residency for artists, on the International Space Station called the ISADORA Module. This thesis has been presented at a number of aerospace industry conferences (STAIF and IAF) in the US and Europe.

In his pieces for theater Seabra recontextualizes images and memories through a mixture of live-action animation, music and storytelling. He makes a sort of live cinema on stage using no special effects or Photoshop. He seeks to preserve what he calls the "visual integrity" of the image (and the creative process), a central theme in his method of storytelling. Seabra believes that a great part of the poetics of an image lies within its origin. He is currently touring with Airplanes & Skyscrapers and Isadora.Orb in Europe and will start developing a new monologue in January 2006.

URLs:

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

## **GAVIN STARKS**

### **United Kingdom**

Gavin Starks is an astronomer, musician, entrepreneur as well as an expert in broadcasting on the internet. He holds a Master of Music degree in Computer-Music, 3-D Sound, Virtual Reality Audio and a second Master Degree in Astronomy, Physics, Mathematics and Computing from the University of Glasgow.

Currently, Gavin is the Managing Director of Consolidated Independent; a company aggregating the music catalogues of the Independent music labels (e.g. Beggars Group) and piping them into Digital Music Services (e.g. iTunes, Napster). He is also Founder and Director of Exequo Ltd, an open, non-profit, collaborative Internet broadcasting network working with NGO's, community collectives and artists. He is Founder and CEO of Tornado Productions Ltd. a company that is involved in every aspect of creating and running one of the largest webcasting companies in Europe. He is also Aggregator and Founder of d:gen network Ltd., a collection of projects and people. He is founding member and now Chairman of the IWA-Europe, a consortium encouraging all forms of broadcasting on the Internet.

He served as Chief Technology Officer at AssetTV Ltd. a company leading the development and launch of a touch-screen, closed-network IP TV channel for the Financial Sector. He was Senior Consultant at Servecast Ltd. where he assisted product development, sales and business development. Servecast's acquisition of Tornado makes it the largest webcasting company in Europe. Gavin served as Strategic Consultant, Webcasting Producer, and Technical Manager for Virgin Net, where as employee #5, he was involved in the definition of the ISP, the development of content channels and pioneering webcasting. He worked as Experimental Officer, Jodrell Bank, Radio Astronomy, Quasar Research, Software Development, Web Development, and Tutoring

URLs: [www.dgen.net](http://www.dgen.net)

## **Gravity Pulse: Theme For A Parabolic Flight**

The following theme, **Gravity Pulse**, was originally conceived and written by Lowry Burgess, Professor of Art at the College of Fine Arts at Carnegie Mellon University, and will be used as a guide during the development of the Space Art Track of the 25th International Space Development Conference and proposed Zero Gravity Arts Consortium parabolic flights to support as a thematic guide for space art projects flown in conjunction with this event.

### **Gravity Pulse**

Gravity Pulse is a theme for a parabolic/ microgravity art flight formed to embrace all of the gravity conditions of parabolic flight: normal gravity, zero gravity, and double gravity. It is meant to extend the range of artistic creativity and meditation on the interacting continuum between zero gravity and varying densities of gravity, to artistically explore the holism of gravity between 0G and multiple Gs.

In parabolic flight the wave of gravity pulses between zero gravity and double gravity with normal gravity as a node between. Gravity pulsation from 1G to 0G to 2G and back to 1G during the lofty arcs of the parabolic flight is seen as a PULSE of gravity, like the heart beating, like breathing -- the alternating PULSE of gravity and zero gravity flowing through everyone and every thing like an energy current or invigorating living sap. What is most profound is the sense of the flow of gravity through people and things within the multiple flight parabolas. And on the other hand it is a force like a wave that can be surfed and admired.

The ZGAC Parabolic Flight For Artists and the art created will reveal new imaginative insights into the medium of gravity that so completely engulfs us, the 'gravit-ium'. Artists and teams will collaborate in developing an ensemble of artworks to explore and express the continuous interacting presence of all three states of gravity within the pulsation of the parabolic flight.

For example: in zero gravity there is a constant fascination with the generation of the effects of 1 or 2 G's; in two Gs an equal obsession is with means of release; in 1G what other wonders are created to simulate 0G and 1G.

## **Space Art Declaration**

By Lowry Burgess

### **The Three Whys of Space Art**

*“Weightlessness comes on abruptly. I  
Soared as if I were inside a soap bubble --  
Like an infant in the womb of my  
Spacecraft, still a child of my mother Earth.”*

### **Miroslav Hermaszewski**

*“ If we are to move human beings into outer space we are going to  
have to move their culture with them.”*

*Lowry Burgess  
Fortune Magazine, September 2005*

There is a profound need to engage the fuller participation of the arts in space exploration and to engage space exploration in the general frameworks of the arts to gain the mutual advantage of the holistic human imagination toward the cosmos.

Within this larger framework there is the problem of productively interfacing two vastly different cultures, the Arts and the Sciences, with all their separate languages, logics, methodologies, behaviors and traditions as well as issues of different customs of authorship, intellectual property and ownership.

When one asks ‘why space art’ one is really asking one of three questions: the why in the present, the why from the past, and the why for the future. What follows is a brief attempt to answer these three ‘whys’.

### **The Why Now?**

In a time of extraordinary global CULTURAL tensions (quite different from, but somewhat relevant to derived economic, political, or social conflicts) the global community needs to reach toward and express shared human feelings, feelings that all people have -- in particular, those feelings associated with the universal surrounding sky with its starry cosmos from which we derive our very being.

Not to address culture in outer space, and particularly feeling-filled and meaningful creation there in space, is to strangle the life-blood of imagination reaching out to our newly, much expanded cosmos, and there searching for a destiny! Just as in many cosmic myths, the creator gazes into the mirror of the cosmos, a mirror to their godly selves, so too we gaze upward toward the

celestial mirror where beneath, we as a global community are floating held in suspension.

For the past fifty years the many disconnects between ecstatic experiences with zero gravity and the earth-bound habits that bind us have isolated much of the advanced perception sensing of our species from general culture. The question has become: How to lift the earth into unfettered freedom and bring ecstatic experience to earth -- how to communicate and evolve the experiences, knowledge and precedents that have emerged from outer space into the transformation of earthbound culture at its evolutionary edges: in space law, science, technology, communications, extra-terrestrial resources.

The phenomenology of zero gravity confronts consciousness and the entirety of mind and body with a fundamental disengagement and subsequent release into a state of levitation. Reciprocally, whenever high states of consciousness are achieved on earth, we experience ecstasis: the sensation of floating, or in extreme cases, even physical levitation has been reported. Disengaged consciousness is characteristic of high states of creativity or inspiration and can be read in the many biographies of important creators. This correspondence is the anti-gravitational core, a region where we wait and abide and that gradually opens toward a broad horizon becoming an enchanted region in which everything belonging there rests, reconciled to it. This region gathers to itself as if nothing were happening, freely turning towards itself letting everything merge and float, guided by their own gravitational nature, pulled overall by the coming forth of truth's transcendent nature. This truth also simultaneously abides in the origin of ones own essential nature and in a transcendental otherness. Here a floating released region of newly integrated truth reveals integrative being, unfolding within time. The experience of relationships among people, things and disciplines is in a free-space. This sense of 'free-space' is a critical counterbalance to our world's more and more rigid adherence to outmoded ideologies and methodologies.

Opening up such free-space dialogues both in outer space, on earth and within social and institutional relationships is an essential agenda for this time. Opening up a profound depth of monologue and bringing that depth of self-communication into a broader social and political dialogue is essential to the perception of a larger, more universal humanity. It is our 'released' monologue with this transcendent truth, always 'futuring' that is the levitational pull that disengages and frees. The internal monologue responding to its internal call must engender an intense dialogue with the other (another time, another society, another person) in the impossible and continuous promise of utopia, making us responsible for the future in the other and in oneself, while at the same time finding oneself in the other's future. This commanding communal essence resides within disengagement and its return to the double gravitational demand of broad based individual and social responsibility; the micro-gravitational flickering in and out of the absolute from 1G to 0Gs, to 1G, to 2Gs and back to

1G - a gravitational axis between release toward transcendent truth and the gravitational weight of incarnate responsibility.

Releasement engenders increased pull upon and articulation of the mesh of our individual and social realities --the release from both internal and external 'gravities'. Through many global telecommunications events we all experience a constant sense of cyber and virtual disengagement and release, we have seen elements of a vocabulary of the art of disengaged body/consciousness. The conditions exist to integrate these technologies and contexts in a more extensive and continuous framework at every level and to connect and communicate this shared extraordinary experience with our broader communities more intensively.

Zero gravity's effect is not what one would assume from conceptual thought or seeming reason. When I observe interactions in zero gravity, it has surprised me that zero gravity appears as an energy that flows through things causing them to live and grow out - to fan out with new potentialities! Zero gravity energy flows through and out and so doing pulls things inside out! It manifests as a vital energy, a grace that lives and moves. It is powerful in all its transformations -- its disengagement and releasement requires new topological relationships. It is demandingly vital! This fundamental shift of human perception and culture formation is being augmented by extraordinarily significant scientific and technological and in particularl communications transformations, all requiring the evolution of aesthetics and specifically a Space Art aesthetics. Some of these deep structure transformations are:

1. The new infinite cosmology - the open universe, infinite;
2. Life as a universal presence--Mars, and beyond;
3. DNA--control of life forms, cloning, inside out reversals--DNA controlled life--life is now controlling DNA, agro-genetics;
4. The computer combined with global communications systems, the simultaneous cyber-communications sphere;
  5. Brain re-forming chemistry alters mind/body relationships;
  6. Internal and external robotics--the micro/macro machine;
7. Shared dream-culture, a lucid dreaming, within the communications tele-sphere;
8. The simultaneous interactive tele-sphere - Tele-presence and remote multi-sensing;
9. The instant cyber-economics of the Global finance System.

## The Why Then (in the Past)?

Since the first human looked upward to the vast and profoundly meaning-filled sky and reached outward and beyond to the starry cosmos, humans have pressed their archetypal feelings and concepts into that vast, beautiful and receptive surface that surrounds all of us. When we look up, we all look into the mirror of the utterly fundamental mind. Each generation's most imaginative intuitions concerning the meaning of human BEING is formed by its concept of sky and cosmos. It is there in that overarching sky that mythic logic; The logic of the mind in framing the unknown, plays out and finds initial form that gives birth to the cultural frameworks of society: art and language, morals and ethics, science and technology, economics and politics

The framing of the new cosmic mythos marks new historical epochs. Usually each new celestial epoch forms its own unique view. Each ages' utopian aspirations are often seen in an outer space, a place beyond -- a transcendent locus (heaven) that, nevertheless, impinges and drives the cultural belief frameworks (mythologies) of immediate ecological and social reality.

Human perception and understanding of our world, its nature and reason is intimately connected to or sense of the universe, the cosmic matrix in which we all hover. Often this led to the belief that outer space, the celestial sphere, leads to other worlds filled with life or death, gods and other life forms from the future or the past, or in fact, even beyond!

Recently, in the middle of the last Century, it became possible to displace the whole of humanity, mind, heart and body from the surface of the earth to venture into cosmic space and time. From that moment a limited number of artists have been engaged with this new context in the service of unfolding it broader meanings. Projects known and unknown, public and private have engendered broad creative thinking and aspirations toward outer space within the various arts communities.

In the process of the emergence of more recent space related art practice, there has been, by definition, close interaction between artists, scientists and technologists, as well as unusual institutional relationships, requiring openness toward unique interactions far beyond the usual frameworks and practice of the arts. This has led to the necessity to further understand and articulate the underlying structures that can best support artistic/cultural aspirations toward the Cosmos. One example of such articulation was a report, *The Arts and Space Culture: The Common Ground of Creativity*, that resulted from the Workshop on Space Artist's Residencies and Collaborations that was held in February, 2005 at Carnegie Mellon University West at NASA Ames Research Center. Produced in conjunction with the Zero Gravity Arts Consortium and the STUDIO For Creative Inquiry at Carnegie Mellon University this report addressed Residencies, Collaborations, Funding, Bringing Space Art to the Broader Public, Education,

and Archiving, Chronologies, Bibliographies, Databases and Scholarship and will serve as one of the basis for soliciting abstracts for the Space Art Track of the 25<sup>th</sup> International Space Development Conference.

Possibly the most important set of developments to the space art community in the past decade is the establishment of a fundamental cultural policy within JAXA. This policy enunciates the goals of fostering the consciousness of diversity, creating a new human viewpoint with the purpose of engendering a culture of human harmony: and integrating science and technology with the humanities and social sciences.

### **The Why in the Future?**

The human mind must face its deep future. What do we see as the ultimate goal for human consciousness in the cosmos? Or is everything we know and feel destined to vanish with the planet earth? To undertake such ontological and teleological exploration raises all the questions about those things that are most essentially human. Again we face the tasks of the utmost capacities of the mind/body and artists work at the forefront of this process of discovery.

Humans are creatures that MAKE meaning. Imaginers/artists give initial intuitive form to those meanings that give guide and compass to the ongoing of our being. The deepest and most primordial meanings are and always have been shaped within and upon the sky/cosmos. Hence, it is to this shared common attention toward the upward and beyond that we Space Artists direct our hearts and minds and to the sharing of those intuitions through a wide range of artworks for the inspiration of this WHOLE planet! This provocative condition requires artistically original plots, narratives and choreographs -- a new kinesthetic and dramaturgy. New artistic/poetic invention fashions and explores, together with the new technologies and techniques, an expressive, intimate, synaesthetic/multi-sensory consciousness evolving within a vibrant mesh of actions and events pulled by a tremendously vital anti-gravitational force toward the integration of the senses in synesthesia driven by the desire (even addiction) for higher coherence in 4D, 'zero gravity', released consciousness.

This future calls for new international networks of large university, institutional, and space agency support in Europe, Asia, India, as well as involving the cultural potentials of the International Space Station. These 'ground-to-zero-gravity linkages' need to be explored in a variety of settings and conditions involving new communications technologies to build broader educational and cultural participation.

Parabolic flight projects such as Zero Gravity Arts Consortium Parabolic Flights for Artists, will link the ground-based philosophy of disengagement to micro-gravity disengagement in the hyperbolic flight in an effort to open wider horizons

for the direct and indirect experiences of zero gravity consciousness to an interdisciplinary group of young students, artists and experts. This nexus of disengagement and releasement is a precondition to the exploration of nascent aesthetic formulations that are inherent to zero gravity or released experience.

We do not know what the genome wishes to become in zero gravity. Certainly, most of the physical and mental structures that have evolved to enable the genome in gravity will become superfluous in zero gravity. What is it that life is to become in the zero gravity gardens, this zero 3rd Space? What does this evolution imply for the evolving dialogue with such a gravity formed creature as us? In this reality the human body, with all its meaning and history, becomes enfolded and engulfed, swallowing all external society and nature in its gravitation - totally inverted and pulled inside-out, flowing through the zero space-zero gravity garden of releasement. Surely, within this evolving experience reside new emotions and feelings, a plenum for a newly emerging aesthetic framework for many artists and collaborators to articulate and develop in conjunction with the invention of new technologies and science of the magneto-gravitational spectrum.

This zero gravity vitality disengages and releases a new topological image: that of the new, zero state, mind/ body/context, dominated by inversions, reversals and 'inside-outedness'. These body/context changes are archetypal, and assembled as a whole; represent a new paradigm, a new surface and form. For example, the natural and the human have been displaced, inverted, as if the body were turned inside out. Both body and nature are combined in a 4th dimensional 'Kline Bottle'. (A Kline Bottle is a mathematical topology where the inside and outside are one continuous infinite surface.) In this metaphor, mind/body/nature creates an infinite skin/landscape - an infinite surface for the newly blooming body, an infinite, 4th dimensional, 'Kline bottle' body. This 'body' and its surrounding surface constitutes a new 'garden' or zone of potential, an intimate region of mutual exaltation--where nature and the human exalt each other. Now, the unknowable wilderness is at our core, surrounded by nature, which is now within the body--all surrounded by the mind and its struggles to form meaning. Further still, this inversion becomes infinitely extensive becoming the layers of an infinite and continuous surface-- the skin/landscape--an intimate and infinite "Garden" wherein gravity locked time becomes unfettered and unfolds itself as a flower of petals of simultaneous times.

We require the artistic basis for a membrane that links, interconnects, integrates an extraordinary plenum and potential for human creativity and freedom within and among networked groups, institutions, facilities, etc. scattered around the world. It calls upon these, the world's space community, its space agencies, research, academic and artistic institutions to extend a deep cultural hospitality to the arts and humanities within the scientific, technological and technical frameworks that exist -- to engage in an imagining with and for the whole of

humankind such that the vast potentials we see will be enabled among us all by the generous and loving spirit that our life so deeply requires.

In this disengaged zero-gravity garden, communications networks both inward biological and outward technological, become complex holographic mirrors that image the largest axiology of culture, producing an interference pattern that gives rise to new gestalts, feeding back upon our fundamental psychic processes. What is most radical is the multifaceted flowing and multidirectional dynamism that inhabits this holistically interactive mesh with its communicative and expressive power -- a new intimate poetics -- new forms addressing existential necessities, i.e., redemption, propitiation, liberation, transcendence and ecstasy. What we need is to extract the particulars from the structures that are being shown-- to see the larger forms, the archetypal 'organisms' of this new aesthetic reality. In the zero state one floats among these blinding, seemingly random, highly significant stroboscopic flashes. This newly evolving drama is flickering back and forth between the intimate sensorial field of mental life and externalized physical substance, energy and society. In this interface, we can enter a more flowing relationship between the mind and sensorial physicality, a communicative, interactive multi-draft, multi-drift "garden" constituting its own new forms, structures and contents. Images and words, music and sounds, gestures and touch, do not live comfortably in this disengaged, zero gravity reality. They want to be more dynamic, more rapid, more explorative, and inquisitive; they want to be more democratic, more synaesthetic, more polyvalent, more free-associative. This new framework demands a de-gestalt and fragmentation-- then a re-assembly on another plane of consciousness. It requires entirely new image formulations -- dynamic, hieroglyphic and synaesthetic in nature-- all in a mutual 'inter-relational' mesh filled with new aesthetic meanings to be formed by artistic effort.



Comet Encounter by Sam Det