

# Holographic Transformations

Approaching the Fourth Sequitur  
Oct 25-Nov 10, 1999



Rebecca Deem, Larry Lieberman, Scott Lloyd, Sam Moree, Dan Schweitzer, Fred Unterseher, Sally Weber  
OSU Faculty Harris Kagan, Mark Merline & Susan Dallas-Swann

Curated by Susan Dallas-Swann, Dept. of Art & Harris Kagan, Dept. of Physics

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The Ohio State University  
Hopkins Hall Gallery & Corridor  
128 N. Oval Mall  
Columbus, Ohio  
Gallery Hours: 9 am-5 pm

Silver Image Gallery  
156 W. 19th Ave  
Columbus, Ohio  
Gallery Hours: 12:30 pm-5 pm

[http://www.physics.ohio-state.edu/~kagan/holo\\_show99](http://www.physics.ohio-state.edu/~kagan/holo_show99)

Sponsored by OSU Department of Art, Department of Physics, the College of the Arts, the College of Math and Physical Sciences, the Office of Research, and the Hopkins Hall Gallery and Corridor

# Holographic Transformations

Approaching the Fourth Sequitur  
Oct 25-Nov 10, 1999

## Exhibition

This exhibition consists of works by artist holographers, faculty and students who participated in the Ohio State University Interdisciplinary Research Seminars in Holography, 3-Dimensional Imaging

## Events

- |              |                    |   |
|--------------|--------------------|---|
| Mon Oct 25,  | 5:00 pm<br>6:00 pm | Opening Reception Hopkins Hall Gallery<br>"Walk-about Discussion" with curators   |
| Thurs Oct 28 | 10:30 am           | Colloquium: Douglas Hofstadter and John Rehling<br>"The Letter Spirit Project"<br>Smith Laboratory room 1094                        |
|              | 4:30 pm            | Guest Lecturer: Douglas Hofstadter<br>"A Life Poised Between Art and Science"<br>Wexner Center for the Arts Film/Video Lecture Hall |
|              | 6:00 pm            | Reception: Hopkins Hall Gallery   |
| Fri Nov 5,   | 1:30 pm            | Guest Lecturer: Sam Moree<br>"Sculpting in a Holographic Medium"<br>Silver Image Gallery  |

## Introduction

Three-dimensional visual history shows a steady evolution from early stereo viewers to the present day virtual reality displays. This preoccupation is an extension of our living in a three-dimensional world. Recording and studying the complex phenomena of this world has developed and benefited as 3-D technology has evolved.

The word hologram is derived from Greek meaning 'whole picture'. A hologram creates a real 3-D image by reconstructing the light waves that were reflected from the original scene or object. The recording medium itself can be cut into pieces and each part will continue to contain the whole image. Time is recorded and recreated as in no other medium. Only with holographic techniques can one display accurate projected 3-D light imagery floating in space in front of the hologram with the same perspective, parallax, form and content as the original scene.

These qualities place holography as an important medium in science and in art. Scientists use holographic techniques to perform stress and failure analysis, non-destructive testing, head up data display, and encryption. Designers create commercial applications with rainbow colored diffraction films and imagery of unbelievable realism. Philosophers study holography as a possible model for the universe. Artists drawn to this vibrant light-based medium exhibit compelling and meaningful pieces. As a result a holography network of art journals, exhibition spaces, collectors, advocates, seminars and courses at universities, institutes, and schools have evolved with the medium.

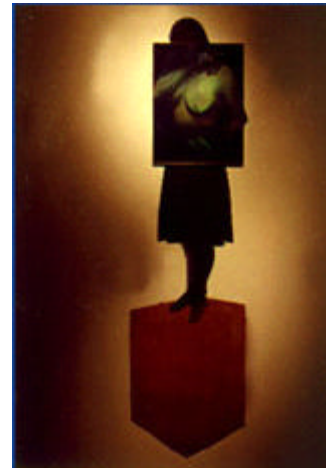
Holography at OSU was started in the 1970's in the electrical engineering department by Stuart Collins. It was taught in Physics by Harris Kagan beginning in 1985. Harris Kagan and Susan Dallas-Swann in Art have collaborated in teaching holography to students since 1987 as a means of creating interdisciplinary ideas between science and art. Holography is now a required course in Art and Technology, Department of Art and available to students university wide.

## The Exhibition

In this exhibition, a diversity of holographic works has been chosen in an attempt to increase our visual and cultural literacy of the medium. The pieces exhibited include installation, sculpture, and kinetic art. The artists communicate through unique vocabularies developed by the exploration of their ideas in three or four dimensions.

### Rebecca Deem

1 *Up Against It*  
Date: 1997  
Size: 12 x 16 inches  
Edition: Three (shown Artist Proof)  
Type: Mirror backed achromate  
transmission (silver halide)  
Description: Pulsed laser original,  
optically reduced



Deem is especially concerned with the interconnectivity of things. How we manifest and effect change inspires her art as well as the relationship between the material and immaterial. *Up Against It* is in memory of a friend who died of breast cancer before 50. It speaks to the concern for breast cancer or female gender issues: physical problems reaching beyond the mere physical into the realm of the Whole being.

### Biography

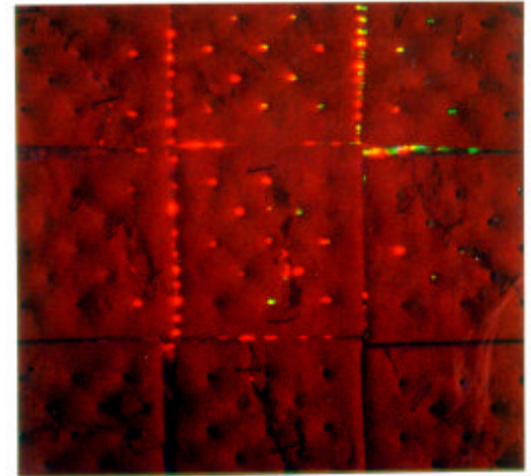
One of the initial artists to combine reflection holograms with mixed media in free standing art works, Deem lectures on Art and Holography and has exhibited her work internationally. In 1989 she co-founded Zone Holografix Studios. She was a member of the team that created the first pulsed laser portrait of a president (Ronald Reagan), for the Smithsonian Portrait Collection. She received a Shearwater Foundation Award for her distinguished career in art holography in 1988. In 1985, she developed a pulsed laser system during an Artist-In-Residence Program with Fred Unterseher in Hamburg, Germany. She received a National Endowment for the Arts, Artist-In-Residence at the Museum of Holography, NY. She graduated from the NY School of Holography.

## R. Scott Lloyd

1                    *Cracks and Holes*  
Date:                1999  
Size:                5 x 5 inches,  
Edition:             Unique  
Type:                Split-beam reflection

2                    *Crackenstein*  
Date:                1999  
Size:                5 x 5 inches  
Edition:             Unique  
Type:                Split-beam reflection

3                    *Screwed-Up Crackers*  
Date:                1999  
Size:                5 x 5 inches,  
Edition:             Unique  
Type:                Split-beam reflection



*From the Ennead Series: The Cracker Holograms* are a play with transforming preconceptions about common images/meanings through variations on the structural theme of an ennead of squares. The holographic transformations occur in the quiet play of helping the viewer construct and alter realities that might appear to be “actual and/or symbolic”. Common subjects, simple structure and low-tech processes are streamlined to maximize idea options and speed. Viewing can begin as a game of tic-tac-toe, but can end up with several levels of meaning, sometimes having little to do with what the viewer started with. “From an easily accessible beginning, I want to make viewers look and move and look again and move and look again and to think and move and think again.”

### Biography

Scott Lloyd received an EdD in Arts Education with an emphasis on holography in post secondary Education, and an MFA in Painting from Pratt Institute, NY. From 1983-1988 he was Director of Educational Services, Museum of Holography, NY. Scott Lloyd teaches Printmaking and Foundations at California University of Pennsylvania. He has had several one-person exhibitions of his holograms.

## Larry Lieberman

1                    *Surrender*  
Date:                1999  
Size:                11 x 14 inches  
Edition:            25  
Type:                Back lit reflection transfer



“*Buddha*, the hologram I produced before the wrath began, is very special to me now. It symbolizes my surrendering to the Buddha and all that came before and after him to bring light to us all. “

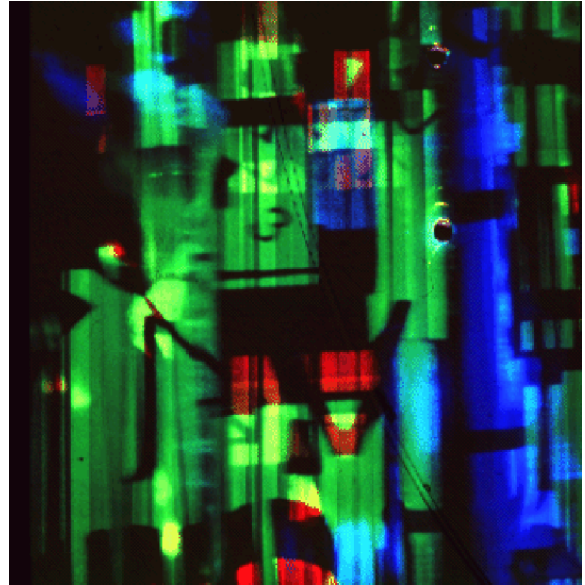
I am not the first Buddha who came upon this earth, nor shall I be the last. In due time another Buddha will arise in the world, a holy one, a supremely enlightened one, endowed with wisdom in conduct, auspicious knowing the universe, an incomparable leader of man, a Master of angels and mortals. Buddha

### Biography

Larry Lieberman specializes in full color reflection holography. He has written extensive articles on holography with publications in Leonardo Journal of the International Society for the Arts, Science and Technology, and the Society of Photo-optical Instrumentation Engineers (SPIE). His exhibitions include Sterling Gallery, FL, Tutweiler Fine Arts, FL, Korean Computer Expo, Seoul, Korea and Obra Social y Cultural de la Caja de Asturias, Spain. He worked with holography as an undergraduate at OSU in the late 1970's and received a BFA degree from OSU in 1977. He studied holography with Dr. T.H. Jeong of Lake Forest College in 1977 and was part of the team, which developed the holographic laser optical printer with Lloyd Cross. He founded the Holographic Research Lab in Columbus, OH in 1978, Holographic Images Inc. in Miami Beach FL in 1982 and Larry Lieberman Holography in 1996. He is presently a founding member of H-Space Inc.

## Sam Moree

1 *Print Out Dance, No.3*  
Date: 1998  
Size: 5 x 7 inches  
Edition: Unique  
Type: Transmission Rainbow  
(silver halide)



Sam Moree's approach to his work in holography stems from his diverse interests in painting, sculpture, photography, film, video, and theater. Moree's works often integrate sculptural components into their final compositions. In his words, "the sculpture works as a focal point to balance the complex details of the hologram."

"I look at holography as a dance of balance- a Rosetta Stone- between Art and Science. The Primitive and the Sophisticated. The Past and the Future. A Balancing beam of Light and Dark. Working with diverse material - metal, stone, neon, plastic, paint and glass, the sculpture echoes in a holographic window. With my work I use stark, almost symbolic sculpture as a diving board to tumble into a holographic graffiti landscape."

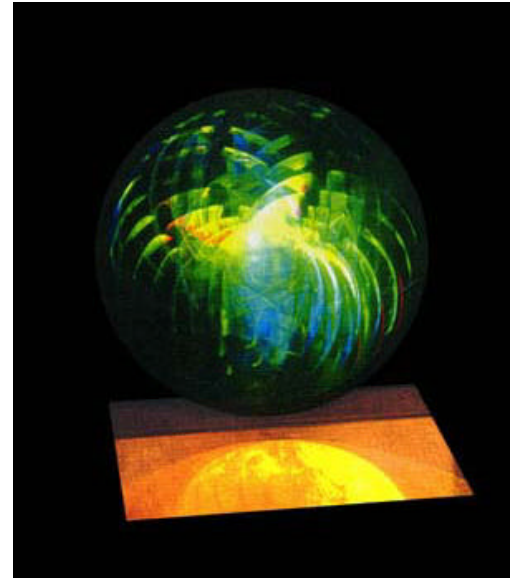
### Biography

Sam Moree has received three Shearwater Awards for his work in holography. In 1996 he received a German National Fellowship for Media Arts in video/holography in Cologne. He taught Visual Arts at the NY School of Holography from 1990 to 1995. His work is in numerous public and private collections

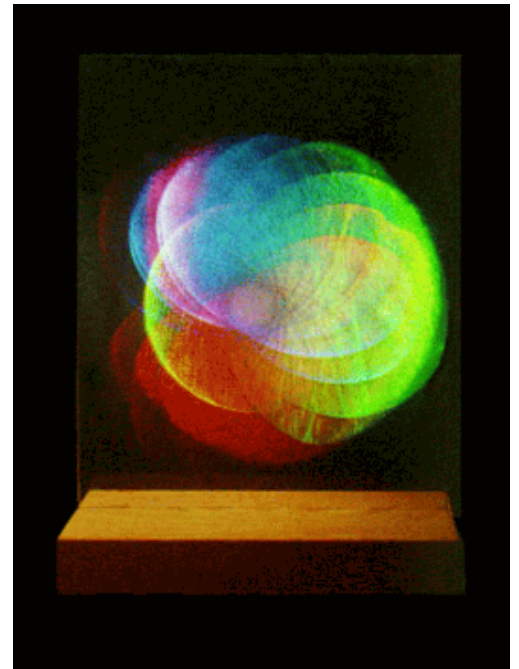


## Fred Unterseher

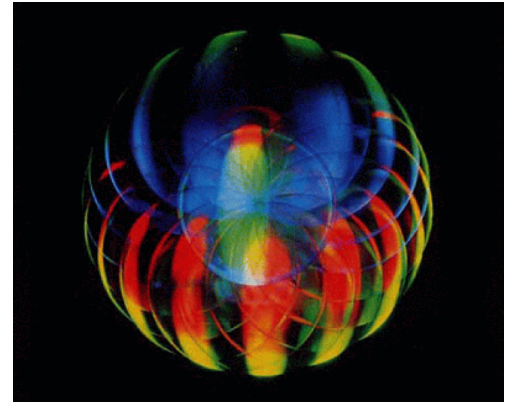
1                    *Yantra Series, Santa Fe Cycle 2 A*  
Date:                1999  
Size:                12 x16 x .75 inches  
Edition:            Unique  
Type:                Off axis Fourier transform lens matrix HOE  
Material:           Dichromate Gelatin Hologram optically  
                         cemented between glass  
Description:       Hologram on purple heart wood base  
                         accompanied by hand made bird nest paper



2                    *Pastel Mandala*  
Date:                1999  
Size:                12 x16 x .75 inches  
Edition:            Unique  
Type:                Off axis Fourier transform lens matrix HOE  
Material:           Dichromate Gelatin Hologram optically  
                         cemented between glass  
Description:       Hologram on purple heart wood base,  
                         accompanied by hand made bird nest  
                         paper



*Matrix 18R*  
Date: 1998  
Size: 12 x16 x .75 inches  
Edition: Unique  
Type: Off axis Fourier transform lens matrix HOE  
Material: Dichromate Gelatin Hologram optically cemented between glass  
Description: Hologram on purple heart wood base, accompanied by hand made bird nest paper



Holographic Mandalas and Yantras represent an on going series of works that explore light and spatial relationships in kinetic form, blending inspiration from ancient sacred geometry with contemporary technological media. Technically the hologram can best be described as an off axis Fourier transform lens matrix, holographic optical element (H.O.E.). This technique produces a white light viewable hologram of pure dimensional light alone. Holographic imagery appears as a kinetic form of pure light, instead of reflected light from a given object. The color is made up of a spectral blend, created by additive color mixing. In works such as this, the viewer/participant may see one color with the left eye and another with the right. He explores the relationship of the nature of light to the ways we experience the world. "I am particularly attracted to the immaterial nature of light, it cannot be manipulated physically like chiseling stone, it is more directly connected to thought. The nature of light itself channeled human evolution toward large brain capacity. Light carries information. The information is so complex however that it requires a substantial decoder. Vision was emphasized by the human organism; the evolutionary choice set up a selective feedback system that in many ways led to thinking itself. In some major ways, thought is contingent upon light." Unterseher views art as any condition that enhances the transformation of personal experience.

### **Biography**

Fred Unterseher graduated from the San Francisco Art Institute in the early 70's. He worked on the cooperative projects Artaud, The Emeryville Artists Coop., ANT FARM (the art/media collective famous for Cadillac Ranch). He co-founded the San Francisco School of Holography with Lloyd Cross and Gerry Pethick. He conceived and co-authored the HOLOGRAPHY HANDBOOK, A Practical Guide to Holography in 1987. He was Director of Education at the Museum of Holography, New York, New York. He was a member of the team that created the first pulsed laser portrait of a president (Ronald Reagan) in 1989. In 1995 he co-founded Holografix Studios with Rebecca Deem. He is a consultant for NASA and JPL on 3D imaging systems and presently teaches at the Brooks Institute of Photography & Pasadena City College.

## Dan Schweitzer

1                    *Wish*  
Date:                1998  
Size:                8 x 10 inches  
Edition:            Unique  
Type:                One step rainbow  
                          hologram  
Materials:         Bronze, glass



For nearly two decades Schweitzer's art has involved ideas or feelings directly related to the human condition combined with pushing the state of image making techniques. Early work involved using visual techniques to extend the normal parameters of the available space in the virtual frame of the hologram. Often extremely complex techniques were used, such as the use of holograms within holograms or using photographs as backgrounds. Animated elements render the illusion of movement through optical techniques by creating a kind of hyper-parallax. A reduction and simplification of holographic imagery occurred later and the holographic moment became theatricalised, using stagelike settings to address the issues of space, time and color. These more recent explorations are staged in the projected, or real, image arena, where light and matter can be inter-related and juxtaposed.

"Light seems to me the stuff that dreams are made of. So where does that light come from?" (D. Dark, circa 1974) "In dreams and thought "the seeing" is clear, lucid and lacks the texture grain and convention of corporeal external vision. Using light to investigate so many unanswered questions seems a more direct tool and enhances the expression of thought and ideas, while the holographic recording echoes the complexity of imagination itself. In the end the goal is to simplify all this, to distill it, make it concrete and to go on dreaming." D. Schweitzer

### Biography

Dan Schweitzer began in theater arts at Penn State. He studied acting with Warren Robertson, and holography with Steve Benton at the New York School of Holography. He founded the New York Holographic Laboratories in 1990. He received four Shearwater Foundation Award in holography. He has had extensive international exhibitions at the Sherry Frumkin Gallery, CA, Scrisso Gallery, CA, Museum of Holography, NYC, Museum of Holography, Koln, Museum of Art, Hamberg, MIT Museum, MA, Akademie der Kunste, Germany, Saramenha Gallery, Rio de Janiero, Smithsonian Institute, Washington D.C., Wellington Public Art Gallery, New Zealand, London Science Museum, England, The New Museum, NYC, National Geographic, Washington D.C. Selected public collections include: MIT, Museum of the Statue of Liberty, NY, Center of Art & Technology, Karlsruhe, Museum of Photography, Paris, Museum of Holography, Paris, Museum of Holography, Chicago, and the Museum of Holography & Visual Media, Pulheim, Germany. He is also in numerous private collections.

## Sally Weber

1                    *Signature of the Source*  
Date:                1997  
Size:                16" x 20"  
Type:                Photograph  
Description:       8'-6" diameter holographic roundel window

Light explores the transformation between energy, matter and mind. The installation's vertical shafts of light transform dynamically while physically projecting two meters vertically into the space above and below the roundel window. The projecting jets of light expand from an unseen core creating a dynamic that captures the memory of the moment which created them and the power of their expanding potential. Located in the Central Gallery of the Karl Ernst Osthaus Museum in Hagen, Germany. Commissioned by the Werner Richard-Dr. Carl Dörken Foundation of Herdecke, Germany.



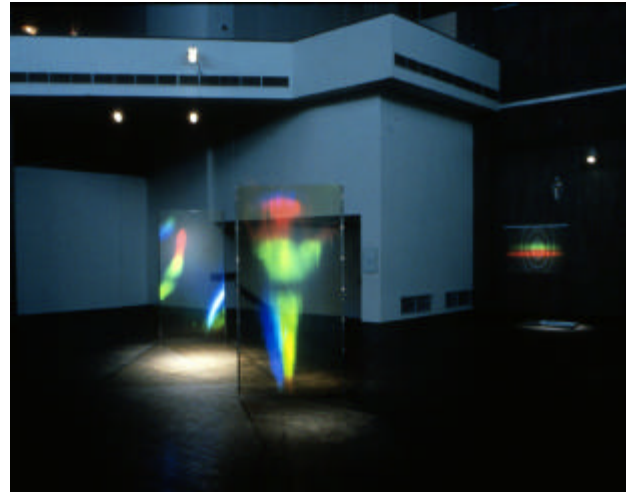
Photograph: Achim Kukulies

2                    *Spiral Passage*  
Date:                1995  
Size:                16" x 20'  
Type:                Photograph  
Description:       Three holographic windows 36" x 71", 6000 mirrors,  
gallery installation: 30 ft x 60 ft x 51 ft

Monitoring the sun's transit using holographic fenestration to generate color bands, which migrate around the gallery, articulates the space uniquely. The slowly moving spectra rotates around a 50-foot double spiral maze of mirrors on the floor.



3 Threshold of a Singularity  
-a Memorial  
Date: 1989  
Size: 16" x 20"  
Type: Photograph  
Description: Two 82"x 42" holographic panels, a 45"x 32" holographic screen, metal, mirror, glass chemistry vessel, and water



As an artist working with light through the contemporary technologies of holography and computer generated imagery, Weber explores the fundamental concepts through visual forms. Inspired by ideas from many fields including physics, astronomy, philosophy, literature, archeoastronomy and comparative religion, she creates works, which bind art, science and technology into an expression of wonder and quest.

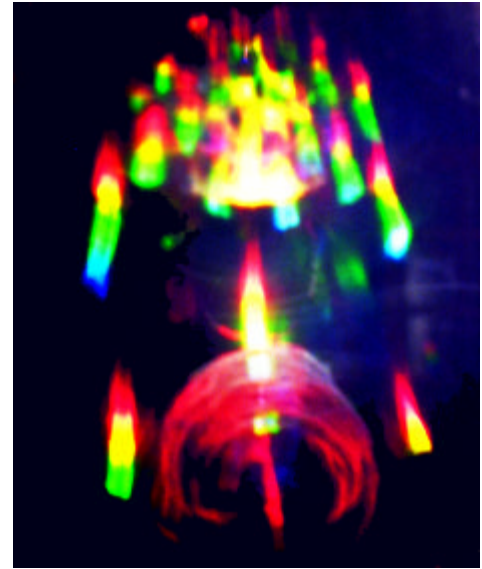
### **Bibliography**

Sally Weber received a Master of Science in Visual Studies, from Massachusetts Institute of Technology (M.I.T.), Cambridge, MA and a B.A. in Art History, Trinity College, Hartford, CT. Selected solo exhibitions installations, and commissions include: Matrix, E.P. Foster Library, Ventura, CA, Signature of the Source, Karl Ernst Osthaus Museum, Hagen, Germany, Sally Weber/Hologramme, Frauen Museum, Bonn, Germany, Sally Weber, Im Licht/In Light, Holographische Arbeiten/Holographic Works, Karl Ernst Osthaus Museum der Stadt Hagen, Germany, Chance, Long Beach Boulevard Metro Station, Los Angeles, CA, Birds w/ J. Sanders, Balikpapan Center, Kalimantan, Indonesia, Light, Phoenix Police and Public Safety Building, Phoenix, AZ. Selected group exhibitions include NTT InterCommunication Center (ICC), Tokyo, Japan, Akademie der Kunste, Berlin, Germany, Skulpturenmuseum Glaskasten Marl, Germany, The Carl Cherry Foundation for the Arts, Carmel, CA, Contemporary Arts Fourm, Santa Barbara, CA, Occidental College, Los Angeles, CA, FHP Hippodrome Gallery, Long Beach, CA, A11 Artforum, Munich, Germany, and Los Angeles Contemporary Exhibitions, Los Angeles, CA. She received 2 Shearwater Foundation Awards, and grants from Massachusetts Council for the Arts and Humanities, Boston, MA, The Polaroid Foundation, Cambridge, MA, and Council for the Arts at M.I.T., Cambridge, MA. Selected collections include Chunichi Shimbun Collection, Nagoya, Japan, David Bermant Foundation, San Ynez, CA, Karl Ernst Osthaus Museum, Hagen, Germany, and Norton Foundations, Los Angeles, CA.

## Art created at The Ohio State University Holography Laboratory

### Harris Kagan & Susan Dallas-Swann

1                    *Tea Cup and Cone*  
Date:                1999  
Size:                8 x 10 inches  
Type:                Transmission grating  
Description:        Aluminum and glass



### Biography

Harris Kagan received his B.S. degree from SUNY Stony Brook in 1972 and his Ph.D. from the University of Minnesota in 1979. He studied holography in Berkley CA, 1972-74. He is a Professor in the Physics Department at OSU specializing in experimental High Energy Physics and an Adjunct Professor in the Department of Art, Art & Technology. He has received numerous grants for his High Energy Physics Research Program from the Department of Energy. He has received an Outstanding Junior Investigator Award from the Department of Energy. He received with Professor Susan Dallas-Swann, three Interdisciplinary Research Seminar Grants and a Battelle Endowment Technology and Human Affairs grant for their work in Holography. Professor Kagan developed holography as a course and technological tool at OSU in 1985 for stress analysis and in preserving and documenting images. He teaches holography in both the Art and Physics Departments.

### Biography

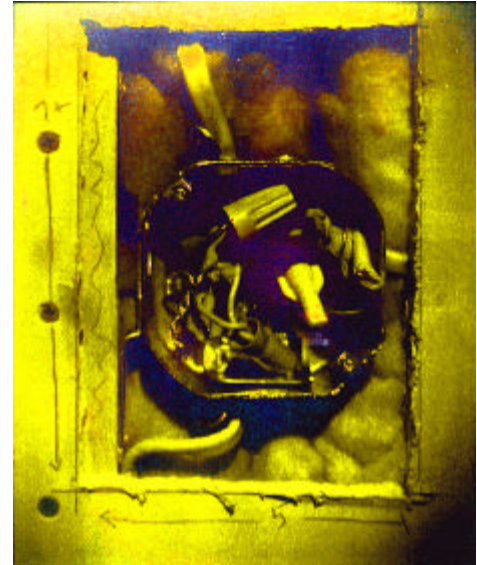
Susan Dallas-Swann exhibits computer controlled light sculptures in interactive installations. She is an Associate Professor in OSU, Department of Art, Art and Technology. Exhibitions include Hudson Opera House, Hudson, NY, A.R.T., Art Resources Transfer, NY, NY, The Ann Arbor Hands-On Museum, Ann Arbor Michigan, Fundacio Pilar i Joan Miro a Mallorca, Spain, Tracor School of Art, Madrid, Spain, SPACES Gallery, Cleveland Ohio. Grants include New Forms Regional Grant, New York Council for the Arts, Artist's Space Exhibition Grant, P.S. #1 Artist Materials Program Grant, National Endowment for the Arts, Individual Fellowship Grant. Work is in the collection of the International Museum of Electrography Collection, University of Spain, at La Mancha, Quinca Spain, and Fundacio Pilar i Joan Miro a Mallorca Spain.

## Mark Merline

1                    *Hole in the Wall Series, 1*  
Date:                1998  
Size:                8 x 10 inches  
Type                 Reflection

2                    *Hole in the Wall Series, 2*  
Date:                1998  
Size:                8 x 10 inches  
Type                 Reflection

3                    *Hole in the Wall Series, 3*  
Date:                1998  
Size:                8 x 10 inches  
Type                 Reflection



Offering a glimpse at what lies behind clean, white gallery walls, the *Hole in the Wall* series is like wearing “3-D, X-ray time-travel glasses”. The viewer sees beyond the surface to examine the past and present physical workings, structural defects, and other normally hidden dimensions of one’s space (and one’s mind).

### Biography

Mark Merline received an MFA degree in Fine Arts at The Ohio State University in 1990 in the Expanded Arts area with an emphasis on holography, kinetic art, light sculpture, video, and film. In 1994-1995 he was a Lecturer and Research Associate in the Department of Art and Department of Physics at OSU. In 1997-1998 he returned as a Lecturer in the Department of Art. He has exhibited at the Barth Galleries, Columbus, Ohio, Peabody's Art Factory, Columbus, Ohio, O.K. Harris, Birmingham, Michigan, His work may be found in the public collections of the Columbus Public Library, the Chicago Museum of Holography, Chicago, Illinois, and the University of Wisconsin, Madison, Wisconsin. Presently he is a faculty member at Marian College, Wisconsin.

**Deborah Chalfant**, Graduate Student, Art & Technology

1. *Global Manipulation*  
Date: 1999  
Size: 6x 6 inches  
Type: One Step Reflection



**Wobbe Koning**, Graduate Student, Art & Technology

1. *Mask*  
Date: 1999  
Size: 5 x 7 inches  
Type: One-Step Reflection





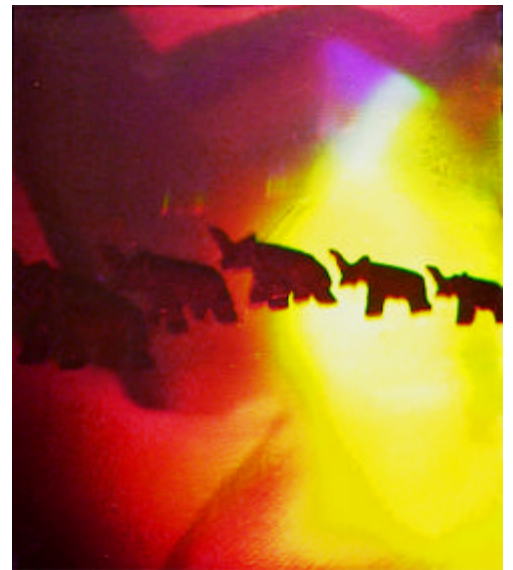
**Brian Bradesca**, Undergraduate Student, Art & Technology

1                    *Off Guard*  
Date:                1999  
Size:                8 x 10 inches  
Type                 Reflection



**Jill Bowers**, Undergraduate Student, Art & Technology

1                    *Elephants' Parade*  
Date:                1999  
Size:                8 x 10 inches  
Type                 Reflection



**Danny Durst**, Undergraduate Student, Art & Technology

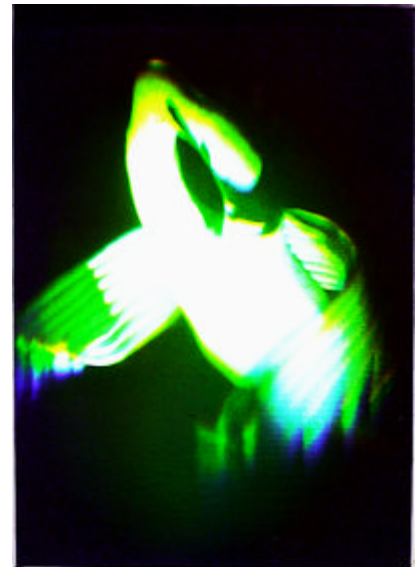
1                    *Floating Rain*  
Date:                1998  
Size:                5 x 7 inches  
Type                 Reflection

2                    *Kanji Rain*  
Date:                1998  
Size:                5 x 7 inches  
Type                 Reflection



**Jim Kendrick**, Undergraduate Student, Art & Technology

1.                    *Song*  
Date:                1999  
Size:                5 x 7 inches  
Type                 Reflection Transfer



Special thanks for assistance to Tom Kelch, Linda Kendric, John Whitcomb, Prudence Y. Gill, Amy Youngs and the Hopkins Hall Gallery and Staff,