

Welcome to:

## THE PHOTONICS CENTER at Boston University

### Art Exhibition and Self-Guided Tour

Photonics, a technology based on the essential elements of light, is a natural partner with art, which communicates to its viewer primarily through the medium of light. The landscape at the nexus of art and technology is a very fertile one, in which both artist and engineer grow in ways that neither has imagined. The works of art which have been installed at the Photonics Center grow from this cross-fertilization of art and technology. We hope that you will enjoy our collection, and that it will stimulate your mind and your imagination alike.

A map of each floor with the location of the art installations is included at the back of this guide.

#### *The Photonics Mast*

Cannon

Southwest Facade of Building

The 80 foot "Photonics Mast," designed by architects at Cannon, is an extended source of uniform light. The mast is divided into three vertical sections, each of which is illuminated by high-intensity light sources at their ends. The sections consist of "leaky" cylindrical waveguides that vertically channel the majority of the light while continuously distributing portions of the light energy outward along its length.

The Mast's location at the Southwest corner of the building positions it at the boundary between Boston and Brookline, and serves as both a beacon and a gateway to the City of Boston as you approach it from the West.

### *In Tangible Infinity*

Sarah Niedzwiecki CAS 2004

1<sup>st</sup> floor, Projecting into Babbitt Street Entrance

The Holograph machine uses one parabolic mirror to form the image. The rays of light reflect at the points of incidence to intersect, converge and resurrect the dénouement image, illuminated beyond the glass. This image appears to tangibly float weightlessly when viewed from the correct angles.

This Möbius Strip originated as a painting on six 22"x40" watercolour panels. After digital enhancements and resizing, the final product was created, at a size of 16.357"x2" when flat.

Augustus Möbius, a German astronomer and mathematician, discovered the Möbius Strip in 1858.

### *Time*

Robert Smart (MA, SFA '99)

1st floor Atrium Stairway

"Time" is a sculpture in which two columns of light create a kaleidoscope of changing color. The light sources, clusters of LEDs, are connected to a computer that implements nonlinear fueling algorithms that set the colors of the columns, as well as color transitions.

Robert Smart created this piece as a graduate student in sculpture at Boston University's School for the Arts. This project was developed under the supervision of Carol Keller and Katharine Wales, Assistant Professors of sculpture at SFA. It was a winner of the 1998 "Art is Light" design challenge of the Photonics Center and the School for the Arts.

### *First Light*

Hugh O'Donnell

2nd floor, St. Mary's Street Lobby

"First Light" is part of a collection of digital images created by Hugh O'Donnell which were inspired by the poetry of Dylan Thomas. The series is a body of electronic work that parallels a series of paintings on canvas based on the same theme. "First Light" is particularly related to Thomas' poem, "The Force That Through The Green Fuse Drives the Flower." According to O'Donnell, "'First Light' does not illustrate Thomas' poem. Instead it acknowledges the same need to explore ways in which the artist can visit those places where, 'Light breaks where no sun shines'."

The image was created on computer and deliberately reveals units of light and color as the building blocks of the image. It is similar to pointillist painting in that the units of color, in this case pixels, can be clearly seen up close, but when the viewer steps back the points fuse, to create an impressionistic image, fusing light and color.

To create the final 12' x 14' image, the computer file was transferred to Ilfochrome transparency film using a Light Jet 5000 Direct Digital Laser printer. The film is

positioned behind glass and illuminated from behind by fluorescent lights.

O'Donnell is professor of painting in the visual arts division of the School for the Arts at Boston University. He has had solo exhibitions at numerous galleries and his work has been exhibited and collected by museums including the Metropolitan Museum of Art, The Museum of Modern Art, the Solomon R. Guggenheim Museum, the National Gallery of Art, and the Museum of Contemporary Art, Tokyo. A selection of O'Donnell's work from the Thomas series was exhibited at The Cooper Union in New York City in 1997. Two major works from the series were part of a tour entitled "Founders and Heirs of the New York School," which toured to The Tokyo Museum and other museums in Japan during 1997.

**Noctiluna**  
Heather Richards  
Corridor, 2<sup>nd</sup> Floor

*Noctiluna* is a multilayered series of acrylic sheets with embedded fluorescent dyes that convert black light illumination into tracings of blue light which follow lines etched in the plastic layers to create a three-dimensional image.

*. . . On the Shoulders of Giants*  
Bill Bell  
Elevator Lobby, 2nd floor

The images of ". . . On the Shoulders of Giants," a "subliminary" light painting, move across the screen and include events, equations, names, and faces related to Photonics.

Additional images can be called up by speaking specific phrases into a microphone mounted on the wall. These include: "Show me the time," "Famous names in Photonics," and "Maxwell's equations." "Keep it real simple," elicits images that are easy to see.

The work is created with LEDs controlled by a Macintosh computer.

Bill Bell is a retired engineer, living in Brookline, Massachusetts, who has created light-based art for the past 18 years. His work can be seen at the Museum of Science in Boston, the Exploratorium in San Francisco, and other locations around the world, including a recent installation at Union Station in Los Angeles, California.

**Snowflake**  
Alyson Smith, SFA  
2<sup>nd</sup> Floor Corridor

Snow crystals are geometric hexagons that cannot be seen by the naked eye. One of the breakthroughs of documenting snowflakes was done in the early 1900's by a farmer named Wilson A. Bentley. With the aid of an optical microscope and the development of photography, Mr. Bentley obtained some 5,000 pictures of snowflakes which he later published in his 1931 book, *Snow Crystals*. These images were the inspiration for this piece.

The artist translated her vision of what an illuminated and magnified snowflake would look like in a sculptural piece. The snowflake has been simplified in a synthetic way for the viewer to observe. By simplifying the snowflake into its geometric forms, the viewer can see the exact symmetry and structure of nature. Without the aid of scientific discoveries and advancements in technology, we would never see the beauty of the six pointed symmetry of a snowflake.

*Athantor*  
Janet Saad-Cook  
7th, 8th, 9th floor Atrium

"Athantor," a Sun Drawing created for the Center, is projected on the wall of the Atrium. Its image of the sun's light slowly and subtly changes as sunlight moves across mirrored metals and optically coated glass specially shaped and assembled by the artist to break light into its component colors.

A heliostat, designed by Boston University astronomy professor Kenneth Janes, is mounted atop the building. It tracks the sun and focuses its light onto the art via relay mirrors.

Saad-Cook's work has also been installed at the American Astronomical Society, Washington, D.C., the National Radio Astronomy Observatory, Socorro, New Mexico, the Smithsonian Institution, Washington, D.C., and other public and private collections. She has exhibited extensively at museums and galleries around the world.

### *Book of Hours*

Alice Orleman (BA, SFA'99)

7th floor Elevator Lobby

Alice Orleman's sculpture is based on an illuminated manuscript from the 14th century which describes the creation of light and the spheres. "Like the Photonics Center," says Orleman, "the theme of the manuscript is a celebration of light." She has used a variety of materials which incorporate the qualities of light – transparency, luminosity, opacity, and diffraction – in creating her sculpture.

Alice Orleman created this piece as a senior sculpture major at Boston University's School for the Arts. Her project was developed under the supervision of Katharine Wales and Carol Keller, Assistant Professors of sculpture at SFA. It was a winner of the 1998 "Art is Light" design challenge of the Photonics Center and the School for the Arts.

### *Spectrum*

Lee Kasai (SFA '98)

9th floor, Photonics Center Waiting Area

Lee Kasai's mural of the spectrum functions both as a work of art and as a scientific reference. The colors and their spacing are accurately depicted. The mural includes the notations (in nanometers) of the wavelengths of various colors, as well as those of common lasers, including lasers currently being developed at the Photonics Center. The clarity of the colors and the lively brushstrokes used by the artist give the mural a brilliance and life that transforms it into art as well as science.

Lee Kasai received his BFA in painting from the School for the Arts in 1998. His painting project was completed under the supervision of Richard Raiselis, associate professor of art at SFA.

### *Campus Photograph*

Itek Corporation

9th floor, Photonics Center, Administrative area

This 22' long photograph of the Boston University campus was taken from a "spy camera" developed by the Itek Corporation, an early spin-off company from Boston University. The photograph was developed on a single piece of film and incorporates the surrounding areas of (left to right) Allston, Cambridge, Back Bay, downtown Boston and the harbor.

*Proper perspective*

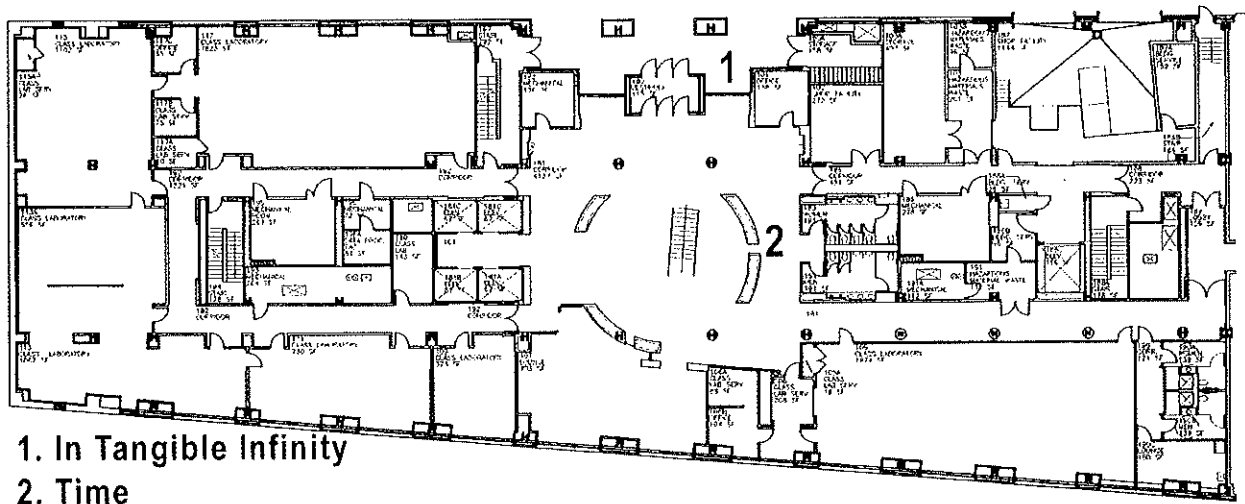
***Boston Panorama***  
**Richard Raiselis**  
**9th floor, Director's Office**

Richard Raiselis's installation is a site-specific oil painting that represents a window-like view of the Boston landscape seen from the Photonics Center. Painting directly on location from three corner windows of the Photonics Center building, Raiselis coordinated many paintings into a unique panorama that sweeps broadly from Cambridge to Brookline.

The play of light through autumn clouds highlights familiar Boston landmarks, and creates a musical rhythm of color notes across the long horizon.

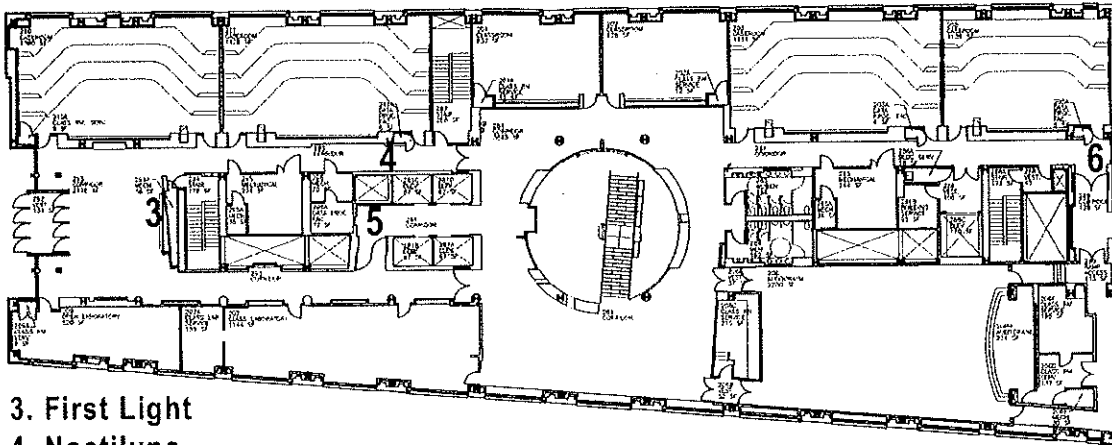
Richard Raiselis is an Associate Professor of Art at Boston University's School for the Arts. His landscape paintings may be seen in many corporate art collections, including those of Fidelity Investments, Wellington Management, Mass Mutual, Chemical Bank and the Exxon Corporation. He is represented in Boston by Gallery NAGA, 67 Newbury Street.

## First Floor



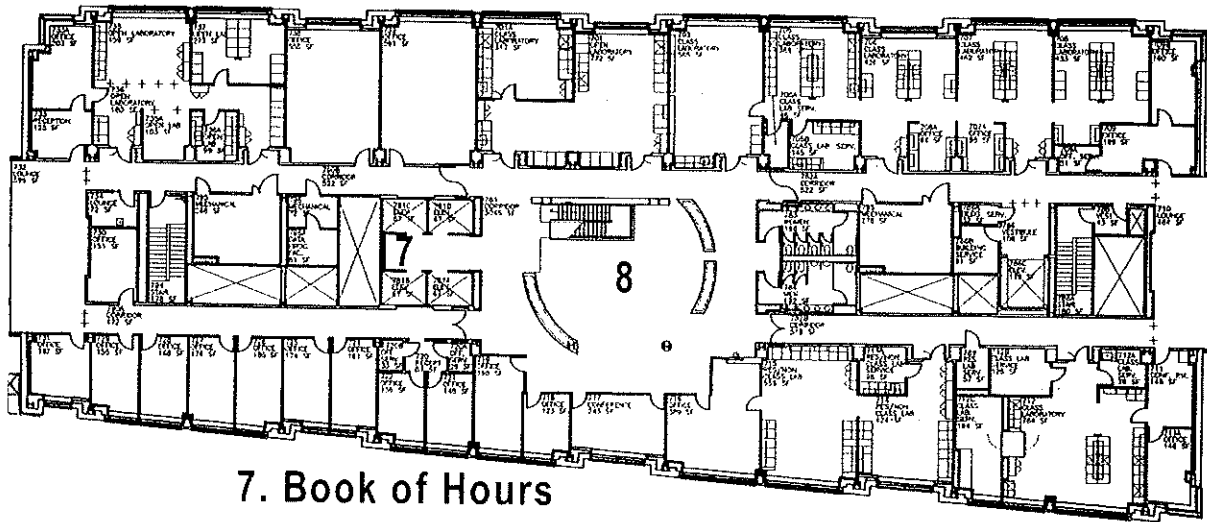
1. In Tangible Infinity
2. Time

## Second Floor



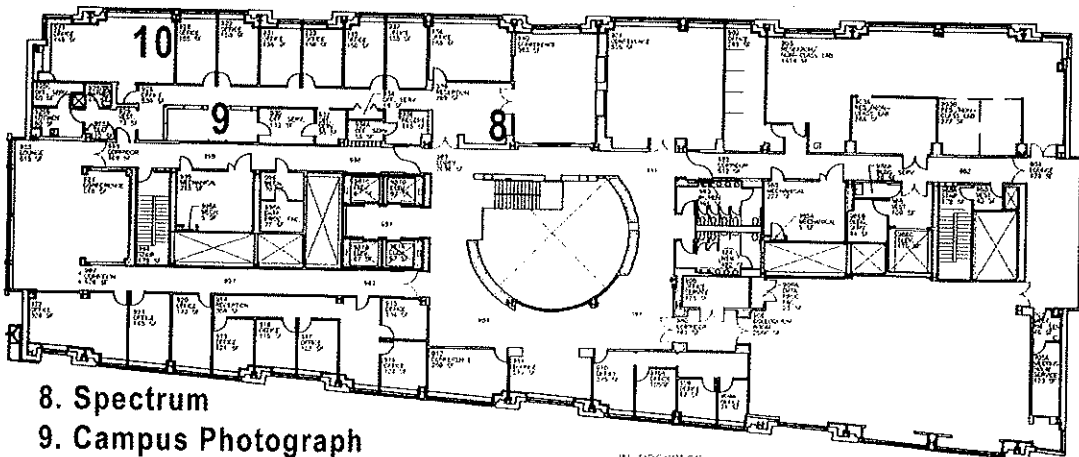
3. First Light
4. Noctiluna
5. On the Shoulders of Giants
6. Snowflake

## Seventh Floor



- 7. Book of Hours
- 8. Athanor

## Ninth Floor



- 8. Spectrum
- 9. Campus Photograph
- 10. Boston Panorama

IN PROGRESS