

New Exhibit in the Harvard Collection of Historical Scientific Instruments Explores the Relationship Between Science and Art

Visual Science: The Art of Research Opens Friday, September 20 in the Harvard Science Center

CAMBRIDGE, Mass., September 19, 2019—Looping white lines converge into spirals on a black background, revealing the separation between the patterns like static on a television. The image of the radiation of a fast electron taken at the Radiation Laboratory in Berkeley, CA in 1940 could easily be an experimental charcoal drawing on white paper. Instead, the lines are formed by water droplets created by a single electron traveling through a super-saturated vapor in a device called a cloud chamber, allowing the movement of subatomic particles to become visible to the human eye.

Throughout history artists and scientists have worked, often symbiotically, to communicate important scientific concepts to each other, and the public, through visual means. For instance, Edwin Land, the inventor of the Polaroid camera, created a collage of colored paper to study color vision. He called these panels his “Mondrians” after the painter Piet Mondrian, although Land theorized that they looked more like the work of Theo van Doesburg. After studying how people saw this panel under different kinds of light, Land developed theory of how color sensations were created by the eye and brain working together.

The goals for creating these science-based images have been varied: to record fleeting events, such as a painting of an animal glimpsed in the field; to make unseen things visible, such as using sand to illustrate how resonate sound waves vibrate on a surface as in Chladni’s figures; to use as teaching tools as with Théodore Olivier Models; or to transform abstract concepts into concrete examples as shown in David S. Goodsell’s watercolor illustration of the molecular structure of living cells. From a practical standpoint, images can also communicate complex and layered information, such as the complete design of a steam engine, in a compact and portable format.

[Visual Science: The Art of Research](#), curated by Dr. David S. Unger, Director of Administration, Collection of Historical Scientific Instruments, and Lecturer, Department of the History of Science, Harvard University, features images and objects drawn from a variety of disciplines spanning the past two hundred years. Each of these examples were recommended by the faculty and students of Harvard’s Department of the History of Science, and provided by departments across the Harvard community: the Department of Molecular and Cellular Biology, the Department of Physics, the Department of Chemistry and Chemical Biology, the Center for Astrophysics, the Center for the History of Medicine, the Museum of Comparative Zoology, the Harvard Medical School, the Department of Mathematics, as well as the Scripps Research Institute.

Together, these items reveal the importance of visual work within science, and highlight the beauty of the images created. As these images and patterns are painstakingly transformed into data, new discoveries and patterns emerge. With large-scale reproduction images, three dimensional objects such as intersecting cylinders, cones, models from the collection, and films, this exhibit offers visitors a sampling of this rich topic.

Visitors will also be able to visit a kiosk showing the compelling film “Portrait of a Shadow,” directed by Peter Galison, Co-founder of Harvard’s Black Hole Initiative and Joseph Pellegrino University Professor in history of science and physics at Harvard University.

It features the first-images of a black hole at the center of the Messier 87 galaxy. Visitors will also discover a photographic image of the Horsehead Nebula, first discovered by Williamina Fleming, curator of astronomical photographs at Harvard College Observatory. The image was created as part of one of the first photographic mappings of the sky.

This exhibit was made possible by generous support from the David P. Wheatland Charitable Trust.

View all of the art from the exhibit in this animated, looping video:
<http://bit.ly/CHSIVisualScienceVideo>.

September 20, 2019 – September 7, 2020

The Special Exhibitions Gallery, Science Center 251, 1 Oxford Street, Cambridge, MA, ~~02138~~
Sunday– Friday, 11:00 am to 4:00 pm. The Putnam and Special Exhibitions galleries are closed Thanksgiving Day, December 24–25, and January 1.

About the Collection of Historical Scientific Instruments

Since its inception in 1948, various Harvard departments and private benefactors have added material to the original nucleus of the Collection of Historical Scientific Instruments, which now comprises over 20,000 objects dating from about 1400 to the present. A broad range of scientific disciplines are represented, including astronomy, navigation, horology, surveying, geology, calculating, physics, biology, medicine, psychology, electricity, and communication. Significant instruments, made obsolete by new technologies, continue to be incorporated. Many of the documents detailing the purchase and use of the instruments have been preserved, and are available for research in the Collection's adjunct library.

The Collection of Historical Scientific Instruments, one of the four [Harvard Museums of Science & Culture](#), is located in the Harvard Science Center, a six-minute walk across the historic campus from Harvard Square. Admission is free and open to the public. Children must be escorted by an adult. The main Putnam Gallery on the first floor is open Sunday–Friday, 11:00 am– 4:00 pm.

In an effort to provide greater access to these important objects and records, the Department of the History of Science has instituted the use of a new, state-of-the-art data management system, including an exciting online component called [Waywiser](#). Using Waywiser, online visitors can simply browse and discover the collection, quickly search for information about particular items, or enjoy groups of instruments pre-selected by collection curators in conjunction with special themes or exhibitions.

Media contact:

Bethany Carland-Adams

Public Relations Specialist

HARVARD MUSEUMS OF SCIENCE & CULTURE

26 Oxford Street, Cambridge, MA 02138

617 496 6064 office

bcarlandadams@hmsc.harvard.edu

hmsc.harvard.edu