

Cold Lights



The audio-visual Installation Cold Lights confronts the accuracy of the natural scientific view on the observed object with the "long winded" perception of an art piece. On the one hand the spectator has to come very close to the exhibited organic object to analyze all the details and to see all texts and images projected on the surface of the display right before it, on the other hand he can let his eyes wander around the room in some kind of "holistic" perception. Especially the sound connects all the exhibits to one complex "organic" object. The spectator is challenged to reflect on his perception in and of natural science as being exact and art as dealing with fictions and virtuality. In that way the installation also reflects on the utilization on imaging technology in exact sciences.

The audio-visual installation Cold Lights was developed for the Luminale Frankfurt am Main 2008 (April, 6. - 11.). Opposite to its character as an event that celebrates representative architecture with magnificent lighting shows, we have been interested in alternative light sources that are found in (- and extracted from -) nature. The scientific research of these organic light sources in the 20th Century gave the possibility to enlighten the smallest imaginable spaces, the inner parts of the human body, the cells.

Cold Lights deals with two scientific phenomena:

First, the biological and chemical phenomenon of luminescence (bioluminescence, chemiluminescence and fluorescence).

*Bioluminescence is the production and emission of „cold light“ by a living organism as the result of a chemical reaction during which chemical energy is converted to light energy. Chemiluminescence is the emission of light with limited emission of heat as the result of a chemical reaction. Fluorescence is a luminescence that is mostly found as an optical phenomenon in cold bodies, in which the molecular absorption of a photon triggers the emission of another photon with a longer wavelength.*¹

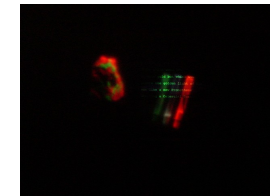
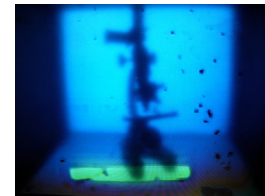
Living organisms are a difficult material for art. The organic art piece is accident-sensitive. It can never be exactly planned. It conserves an area, that artistic decisions can't influence.

¹ Wikipedia

Second, techniques of „visualization“ and „screening“ in bioscientific research:

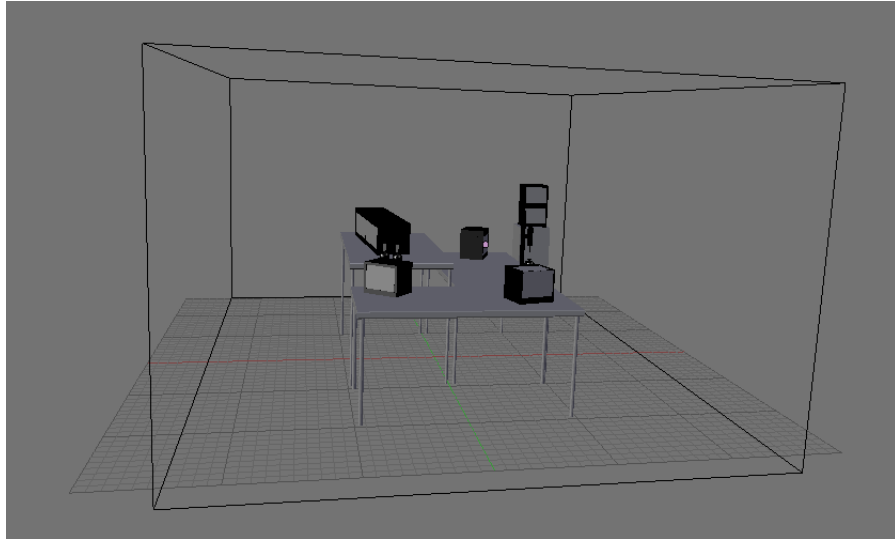
We made extensive use of commonly used LCD-ThinFilmTransistor-Display-technology. We deconstructed used 15“ Tft-Displays and separated the Panels from its backlights (a technique well known from self-made home-video-projectors). The panels were used as transparent „windows“ (still capable of presenting video content) in front of the black boxes, in which we placed our luminescent and fluorescent light sources. Therefore it is made possible, to view simultaneously an object and its visualization or further descriptions / analyses of it in Realtime.

The transparent tft-panels open a complex relation between concrete image space and actual (computergenerated) video-content. The video-image can irritate the perception of a „real“ object behind, only a light-emitting object behind the panel can make the video-content visible. At the same time the video-image controls the gaze of the spectator at what is behind of it, releases or conceals the sight (white color becomes almost transparent, black the opposite).



(left: real microscope in black box, illuminated by white ccfl-panel at the back; luminescent microculture in blue liquid under microscope is live-grabbed with camera and screened onto the tft-panel in the front; right: fluorescent stone and chemical solutions with uv-light behind tft-panel make video-content on tft-panel partly visible; at the same time the color of the video-content changes the perceptible colors of the fluorescent light-emitters inside;

There is no narrative in our audio-visual installation.



Room setup of the installation

It takes place in another black box, in a darkened room (about 6m30 x 4m50), since the subtle changes provided by our organic material and also the transparency of the tft-panels is perceivable at its best in the dark.

A self-running and self-organizing system is presented: The dramaturgical basic structure and all the mapping is done in realtime with MaxMspJitter. A self-written program in this graphical programming environment connects the elements of the installation with 7 networked computers, 2 Audio-Interfaces, one usb-dmx-interface and 2 arduino-microcontrollers.

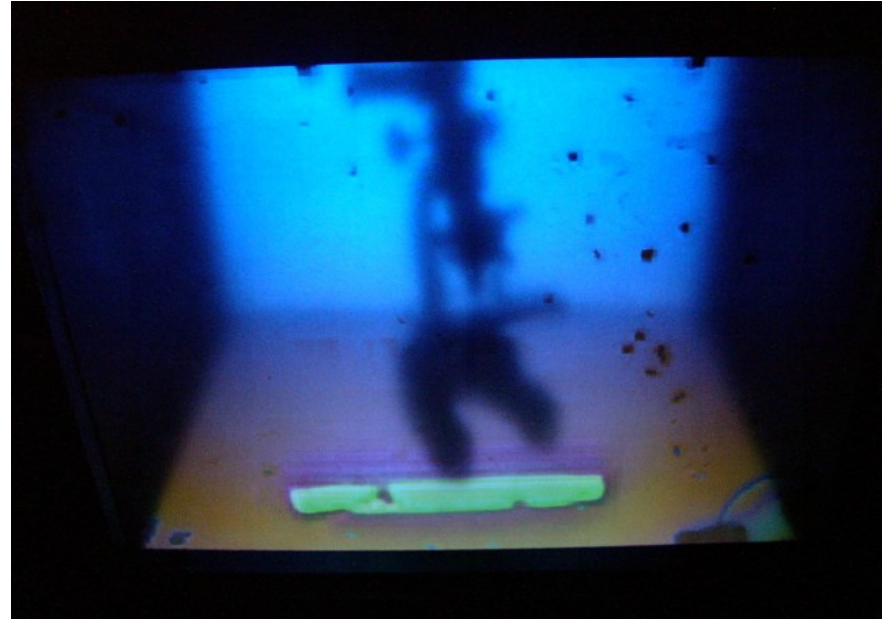
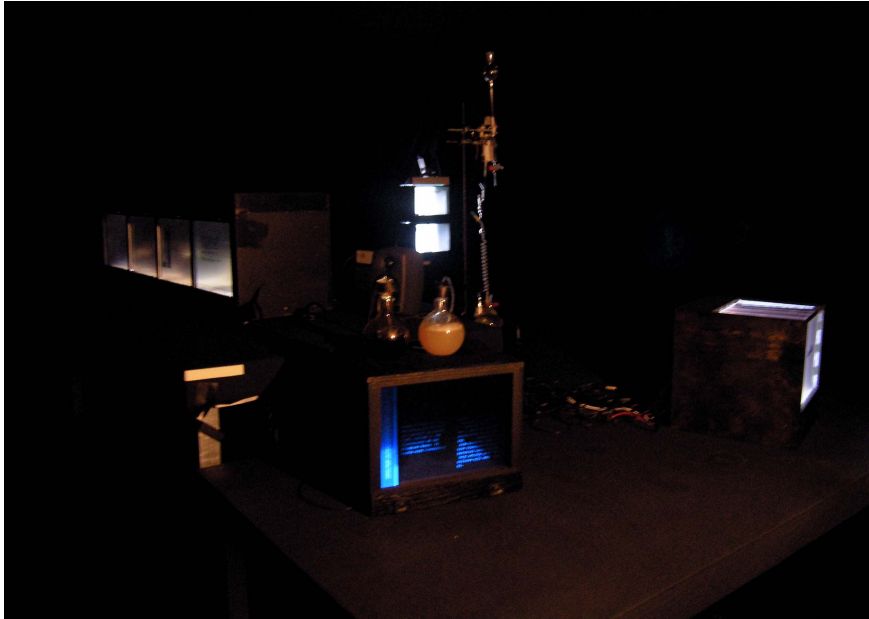
Cold lights is a project by René Liebert and Tobias Rosenberger (concept + realization) together with Maximilian Haas (audio).

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temperatur in Model 'bacteria': 20.48°
temperatur in Model 'scorpion': 20.94°
temperatur in Model 'electrochemiluminescence': 20.20°
temperatur in Model 'results': 19.30°
average temperatur inside models: 20.15°

purpose: expression of scorpions: unknown
position: transformed cell system: known

