

## The Light of Leo Villareal

by Brandt Hammer



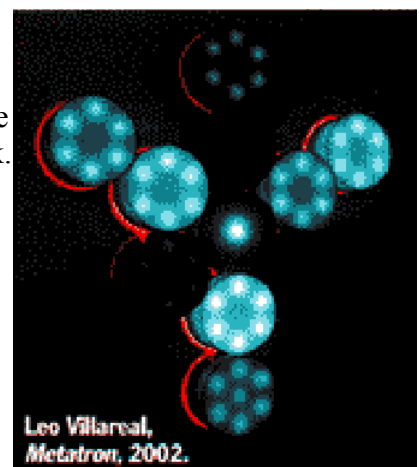
Leo Villareal's "Multiverse" encompasses his passion to represent the basic laws and randomness of nature through an artificial light medium. This 41,000+ LED kinetic art project of twinkling stars to moving swells of light, displayed in the Conner Contemporary Art building in 2008, reminded its viewers of the vastness of our universe as well as the randomness of the miniature and personal universe that we all live it from day to day. Being able to design an LED display at such a large scale requires power engineering as well as programming expertise. Virtual reality was one of Leo's interests early on in his life that influenced the direction of his art pieces. After graduating from Yale in 1990, Leo Villareal, attended the Tisch School of the Arts, Interactive Telecommunications Program in New York where he learned programming skills to communicate through light sources.. Since 2002, Leo has had

ten solo exhibitions that show his ability to represent organic experiences using his preferred medium of light.

Inspired by "The Game of Life" by John Conway, Leo has followed the same path of creating shapes and patterns that follow basic physics laws such as gravity, momentum, and friction. Parameters are used to adjust the laws coefficients to produce a pleasing behavior. The final parameter values are found through a trial and error method which allows Leo to experiment with different values. By programming a random cycle of behaviors for a random period of time, it is very rare for a viewer to experience the same pattern twice. Another technique that Leo uses frequently is layering different synchronized patterns on top of each other thus creating a more intricate design. Leo has worked with light bulbs, strobe lights, and LEDs. Many of his works using LEDs as the medium will also contain a defusing material such as acrylic to mix the individual LED colors allowing for a wider range of the light spectrum.

### *Metatron* - Sandra Gering Gallery, 2002

Leo Villareal's first solo exhibition contained three art pieces in all designed in the same light bulb medium. The underlying program of the *Metatron* allowed the lights on the thirteen plastic disks to fade in and out in a rhythmic pattern. Shown in illustration 1, the discs were arranged so that there were six branches extending from the center disk. Viewers were drawn by its ability to portray the feeling of a lighthouse illuminating the night sea.



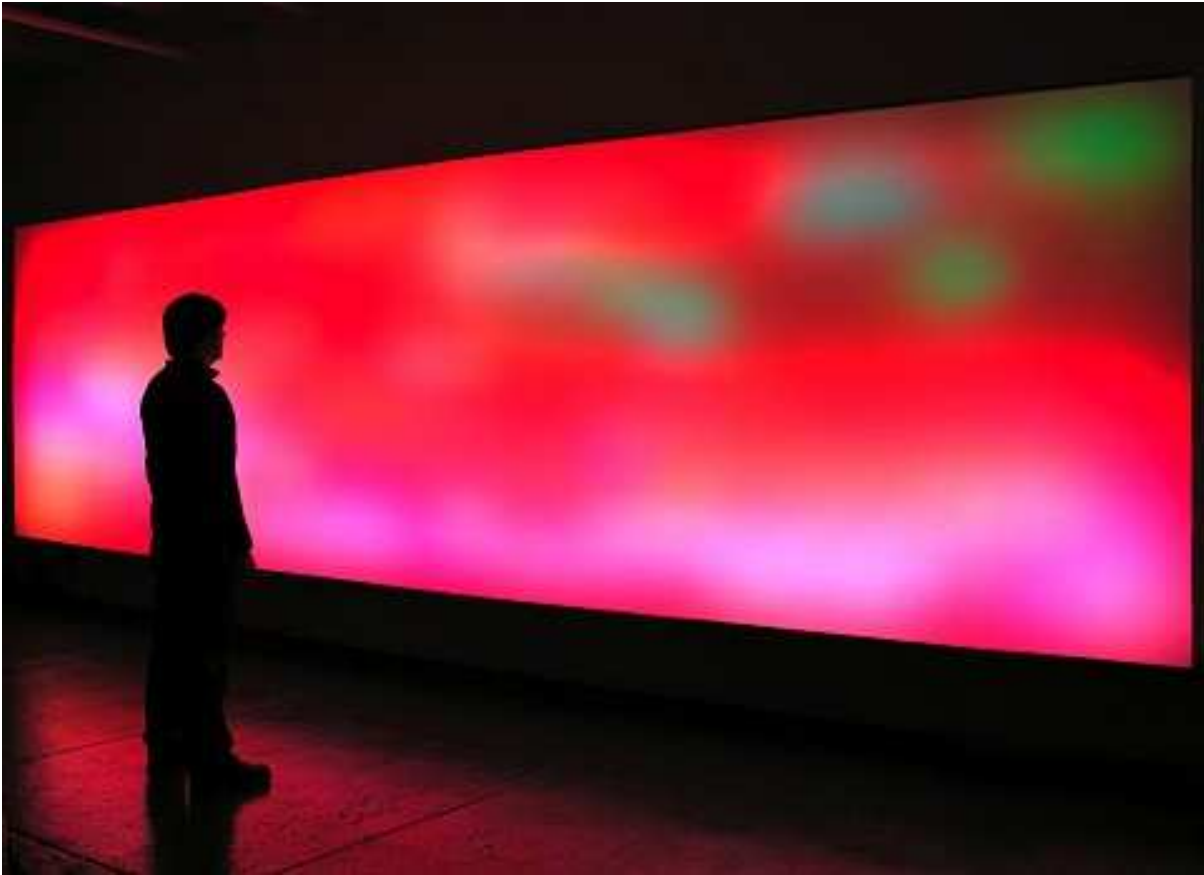
### Light Matrix – Albright Knox Art Gallery, 2005

The *Light Matrix* is a 16 by 80 foot structure at the Albright Knox Art Gallery. It has the feel of ten gigantic dominoes all aligned length-wise in a row with 36 lights in each. Claire Schneider, the Associate Curator of the Albright Knox Art Gallery, commented on Leo's work, "Contemporary abstraction is marked by adventurous use of materials, hybridization of media, subtle humor, and compulsion to engage the viewer's entire sensorial responses. Still, these works hold fast to characteristics at the heart of abstraction, which has a 100-year history – a desire to describe the world free of narrative and representational imagery, an urge to capture poetic approximations of experience, and an openness to a variety of voices." The *Light*

*Illustration 1:*  
<http://www.villareal.net/press/timeoutGering2002.gif>

*Matrix* demonstrates Leo's ability to create abstract media that captures the attention of its audience as if trying to convey a familiar message.

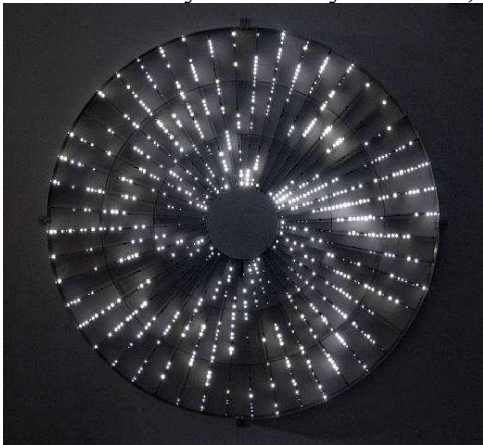
*Field* – Gering & Lopez Gallery, 2007



*Illustration 2: Field* - <http://www.artnet.com/>

A twenty four foot display, the *Field* contains thousands of colored LEDs behind an acrylic panel that disperses the light of each LED into the space of its neighboring LEDs. This diffusion allows for over 16 million different colors. It has been said that this piece is like visual music. Many different moods and memories can be experienced in one day, as each random pattern is displayed for a few minutes at a time.

*Stars* – Brooklyn Academy of Music, 2007



The Brooklyn Academy of Music sought for Leo's ability to create visual music to help illuminate the windows of the landmark. Three windows were modified with concentric rings of LEDs. The outermost windows create an inorganic feel as the LEDs form rays protruding from the center. The center window contrasts the inorganic feeling by spiraling the LEDs as if taking the form of a conch shell. The software allows the LEDs to dance around as if the LEDs were the music instrument of choice.

*Multiverse* – National Gallery of Art, 2008

Spanning the 200 ft. long Concourse walkway, *Multiverse* is Leo's most complex work ever created and shows his talents at being able to engineer and program complex matrices of LEDs. The software contains multiple layers of patterns that randomly appear on the ceiling and wall surrounding the walkway. Using different intensities of each of the LEDs, depths are portrayed as the viewer contemplates on the vast expanse of space in the universe. Each pattern follows a set of basic rules programmed by Leo that represent natural laws found in nature thus giving a feeling of familiarity to the viewer. This feeling allows the observer to explore the abstract as if to communicate an important message about one's surroundings.



*Illustration 3: Multiverse* <http://www.jimonlight.com/2009/02/28/multiverse-by-leo-villareal/>

Leo Villareal is pushing the boundaries of the amount of hardware used in abstract light displays. The main artistic part of his work is contained in the organic nature programmed into the movement of light. This movement is what communicates though abstract means the intention of each piece of art. The use of random variables in his art pieces is a balancing act. If there is too much randomness, the piece could be considered a child's toy. If you took away all the random variables, then the piece of art would not be able to explore its space inside the given rules thus becoming repetitious and pre-defined.

Observers of Leo's work seem to be split into two different groups. One group seems to be able to explore the randomness of his work and enjoy the many forms and shapes that are communicated. The other group finds his work to be less artistic. They claim that his software code is primitive and lacks the abstractness that is portrayed in other famous work. These differences seem to stem from what the observers define as art as Leo explores newer forms of light medium in his pieces.

Leo Villareal has demonstrated the power of combining the knowledge from multiple fields of study into a work of art. From power engineering and computer programming to abstract art design, Leo has developed many pieces of light based art that communicate the motion of natural laws that are always around us.