

Nano Art - Invisible Visual Art.

Artist statement

Nano Art plays on the aesthetic paradox of exposing ideas, concepts and artwork that cannot be seen. Nano Art is the perfect antidote for the massive amount of images that are 'projected' to us every day and every second.

What

"Nano Art is a new art discipline at the art-science-technology intersections. It features nanolandscapes (molecular and atomic landscapes which are natural structures of matter at molecular and atomic scales) and nanosculptures (structures created by scientists and artists by manipulating matter at molecular and atomic scales using chemical and physical processes). These structures are visualized with powerful research tools like scanning electron microscopes and atomic force microscopes and their scientific images are captured and further processed by using different artistic techniques to convert them into artworks showcased for audiences." [Cris Orfescu]

Research

Nano Art could be for the 21st Century what photography was for the 20th Century. We live in a technological society, in a new Renaissance period, and there is no reason for arts to stay away from technology. Nano Art is the expression of the new technological revolution and reflects the transition from science to art using technology. Scientists are exploring the nano world hoping to find a better future and there is evidence that nanotechnology might be the answer. Like any new technology, nanotechnology can have positive or negative effects on the environment and society. [Cris Orfescu]

Process

The depth and three dimensions achieved in Nano Art sets this imaging process apart from photography where images are created by photons (particles of light) rather than by electrons (electrically charged particles). The electrons penetrate deeper inside the structure creating images with more depth, more natural 3D-look than the photographic images.

Result

The current result is a series of Nano Art artworks created with a scanning electron microscope. The current series is called Un[masked] and attempts to create a connection with old and new masters in traditional painting.

Artist talk

Frederik: "My final aim is to construct a experience hovering between vision and non-vision, artistic, scientific and metaphysical worlds. In addition i express the interest to contextualize this particular artwork within the rich history of painting and photography."

Curators talk

Buckminster Fuller has often been cited as the grandfather of nano art, having foreseen the shapes and molecular structures of the nano-world in his geodesic domes, a.k.a. "buckyballs", which had such a tectonic impact on architecture and art in the mid-20th century. Now, circa 2004, nano art is beginning to evolve. In a way, it's the ultimate new arena of abstraction, since it is often much more "implied" then "seen" in terms of its effect on a given environment. In this sense, nano art is inherently interactive and seems to point to a future where that feature becomes a defining characteristic of nano-expression. With the advent of any new technology, innovation and creativity leap at the opportunity of discovering a new avenue of expression. And just as with digital technology and art, nano art raises question whether the work of art is the actual object created (an increasingly atavistic idea) or the information, like digital scans for example, that determines its form counts as its essence.

Main elements

- 1) Rethinking traditional photography
- 2) Artistic, scientific and industrial research
- 3) The historical relationship between perception and technology

* what we see

* how we see

* how we understand what we see

Science POV

Nanotechnology (sometimes shortened to "nanotech") is the study of manipulating matter on an atomic and molecular scale. Generally, nanotechnology deals with structures sized between 1 to 100 nanometre in at least one dimension, and involves developing materials or devices possessing at least one dimension within that size. Quantum mechanical effects are very important at this scale, which is in the quantum realm.

A scanning electron microscope (SEM) is a type of electron microscope that images a sample by scanning it with a high-energy beam of electrons in a raster scan pattern. The electrons interact with the atoms that make up the sample producing signals that contain information about the sample's surface topography, composition, and other properties such as electrical conductivity.

Art POV

The infinitely small aesthetic universe is the result of the collision of art with the infinitely small world of nanotechnology. Nano art enables revolutionary ways of expression that promote the development of new aesthetic approaches, alternative points of view, different interpretations of the world.

Tags

Nano Art - SEM - Cris Orfescu - Invisible Art