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Small wonder Nanotechnology

Nanotechnology - which deals with the minutest of technological scales - has a big role in new exhibit

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Staff Writer

Shouting their presence in loud shades of red, blue and yellow, artist and scientist Cris Orfescu's images look first like abstract pieces. The colorful curves, angular lines and sudden bursts that command the canvases appear to be the fantastical expression of the artist's whim and creative taste.

(Photo courtesy of www.absolutearts.com)

NANOART - Limited edition prints. Nano-dimensional features of different materials are revealed with an electron microscope after samples have been previously prepared. The image is created by electrons (electric charged particles) rather then photons (particles of light) as in photography.

Then familiar objects begin to appear in the abstract renderings. One resembles a falling leaf; another could be a bird of paradise.

That exploratory process is what Orfescu hopes viewers experience when they look at his work on display this month in a two-man show at La Casa Decor Interiors in Los Angeles.

That way, when he explains that the images are actually what he calls "nanoart," showing colored images of such impossibly tiny objects as dust and dirt particles, he hopes onlookers will have a greater connection with nanotechnology.

"The whole idea behind this is I want people to understand a little bit more about nanotechnology," Orfescu said. "I'm trying to make a parallel with the macro world --- the one we see with the naked eye."

Nanotechnology is the science and development that deals with the minutest of technological scales --- sometimes involving the manipulation of single atoms. "Nano" implies a billionth. Therefore, a nanosecond is one billionth of a second and a nanometer is a billionth of a meter.

The potential for applications of the field's outcomes is enormous and broad-reaching. From medical advancements to environmental protection to textile improvements, many scientists are convinced nanotechnology will alter the way we live in the decades to come.

As the field has advanced, scientists, politicians, environmental managers and ethicists have also increasingly brought the potential negative impacts such technologies may inflict to the forefront.

Orfescu has worked for more than a decade in the field of nanotechnology as a materials scientist and manager of the analytical laboratory at Caleb Technology in Torrance. After several years, he said he got the feeling that most people didn't have any understanding of what scientists were trying to do with nanotechnology. And he wanted to change that.

Orfescu said he thinks people are not aware of the ways nanotechnology could benefit society. "They only see the potential dangers. We have to look at the good sides of nanotechnology as well," he said.

He hopes his images will help shed some light on the value nanotechnololgy offers for quality of life improvements by making what he calls "nano-things" more appealing and accessible.

To create them, he uses a type of powerful microscope called a scanning electron microscope to image his extremely small samples --- usually between tens of nanometers and a few thousands of nanometers in size.

The resulting images show the negatively charged particles, or electrons, in the sample in black and white. Orfescu then digitally processes them, adding color and manipulating the images in PhotoShop until he arrives at an end product that pleases his artistic sensibilities.

Other scientists working in nanoart are concerned with the science in their images more than the art, he said. For example, some scientists provide extreme close-ups of samples for scientific journals. "But I have been trying to go towards art," he said. "If you look at my work, most of the images have lost most of the scientific information."

Orfescu's final products illustrate depth and three dimensions in a manner that sets his process of electron imaging apart from traditional photography, where images are created by particles of light rather than by electrons.

One of the artist's personal favorites from his exhibit is a work called "In Pieces." To create it, he used the microscope to image a micro drop of colloidal graphite, which he froze with liquid nitrogen. In the process, the graphite cracked, creating interesting angles throughout the piece, which he then coated with gold. The finished piece looks like an other-worldly metal reflecting hues of purple, yellow and blue.

Each viewer sees something different in Orfescu's work, and he says that's what he likes about abstract art --- it makes people think.

Orfescu's partner in the exhibit, photographer Rick Chinelli, said "personally, I think that Cris works on another level both physically and mentally." While Chinelli said his own work looks closely at subjects on a human level, he said Orfescu's takes an intimate look on the molecular level.

Having their differing work displayed side by side makes a statement about art itself,

Chinelli said. But the two exhibits are tied together in their dissonance. "People come from all walks of life and relate to both," he said.

NANOART
Where: La Casa Decor Interiors, 1164 Robertson Blvd., Los Angeles
When: 10 a.m.-6 p.m. Mondays-Saturdays; continues through April 30
Information: (310) 273-4515
Note: The artists will hold a concluding weekend reception April 29 and 30 at the exhibit from 6-10 p.m. More of Orfescu's work can be seen at www.absolutearts.com/portfolios/c/criorf.

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