

# UC Irvine to exhibit artworks created via biological engineering



David Familian, artistic director of UC Irvine's Beall Center for Art and Technology, is curating its first exhibit of synthetic biology art -- works that turn living things into art by altering their genetic makeup.

(David Familian)



By **Mike Boehm**

JULY 31, 2015, 7:00 AM

**U**C Irvine has put out a call for artists who want to manipulate the building blocks of life as we know it to create art as we've never known it – works made of living organisms that owe their existence to biological engineering rather than evolution.

The project's director, David Familian, said he doesn't expect any modern Victor Frankensteins to apply – although he concedes it's almost inevitable that the public, which tends to get queasy about scientifically engineered life forms, might think so, or fear so.

Familian is artistic director of the university's Beall Center for Art and Technology. It recently invited artists to

apply for a chance to create a new artwork using techniques in synthetic biology – the burgeoning science of fiddling with DNA strands that exist in the natural world to produce substances, organisms or, in this case, aesthetic objects or images, that expand upon what nature has to offer.

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The exhibition at the Beall Center is tentatively called “Traces of Vitality” and is scheduled to open Feb. 6, 2016. The centerpiece will be the winning applicant’s work of synthetic biology art.

The artist who is picked will come to the campus for a two-week residency this fall and work with scientists from UC Irvine’s Center for Complex Biological Systems to flesh out the artwork, then return on the eve of the exhibition to finish and install it.

Familian said that he and co-curator Jens Hauser will pick other works of synthetic biology art for the show, but will wait until it’s clear what the commissioned centerpiece will be before seeking other pieces to go with it.

Victoria Vesna, who heads the Art/Sci Center at UCLA, will join the curators and three UCI scientists or social scientists in picking the artist for the project. The winner will get up to \$10,000 for travel and living expenses. The panel will consider two kinds of proposals – ones using living material, known as “wet” synthetic biology art, and ideas for “dry” art that use computers to simulate genetic mutations.

Familian, who’s been with the Beall Center since 2005, said its only other show to feature works created by manipulating DNA was “Evidence,” a 2013 solo exhibition by Buffalo, N.Y., artist Paul Vanouse.

Vanouse cut up strands of bacterial DNA to create drawings made from living material; the subjects included a skull and crossbones and a copyright symbol, Familian said.

But Vanouse used snippets of naturally-occurring DNA rather than combining different kinds of DNA to create the new living forms that are the hallmark of synthetic biology art.

Most art exhibitions focused on synthetic biology have taken place overseas, Familian said. One of the pioneers is Eduardo Kac, who in 2000 inserted DNA from a fluorescent jellyfish into an embryonic rabbit he named Alba. The rabbit was white, but when Kac put it under ultraviolet light, its jellyfish DNA made it turn a glowing green.

Later Kac spliced his own DNA into a petunia, which according to his website yielded a flower whose red veins expressed his own presence in the new organism.

Bunnies and flowers may seem innocuous, but the idea of engineering new life forms is not exactly a comfortable one. Sculpture, painting, video and performance art can outrage a beholder, but typically they don’t make anyone wonder whether the artist might be in step with a technological trend that menaces human and animal dignity and might even threaten our species’ survival.

When it comes to this kind of science, “people [may] have a visceral reaction that can bring alive the image of Frankenstein,” Familian acknowledged. But he’s confident the show will be varied enough to “elicit a wide variety

of responses" that are not reflexively fearful.

Some biology-based artists deliberately try to summon or confront viewers fears about genetic engineering as part of the concept of their work, Familian said.

But at this point, he said, the kinds of laboratories that artists can access for synthetic biology work lack the advanced technology needed to manufacture anything that might turn sinister in an actual rather than an aesthetic sense.

In any case, Familian assured, the coming exhibition and the commissioned synthetic biology artwork won't be presented simply to shock, frighten or disgust. He's hoping for proposals that "have compelling visual quality, the conceptual aspects are intriguing, and the science is interesting."

For an exhibition of technology-based art to succeed, Familian said, any "gee-whiz" techno-geek factor must take a back seat to the visual and intellectual concerns that serious artists are expected to pursue.

"My motto is, 'look good and be smart,'" he said. "I don't want anyone to ever come in the gallery and the first thing they say is 'how does that work?' I'd rather engage them in the art's visual qualities, and then get deeper into it."

About two years ago the Los Angeles County Museum of Art launched an Art and Technology Lab that makes grants to artists for art projects linked to science. A LACMA spokeswoman said it hasn't yet delved into synthetic biology art.

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