

At NYC sci fest, asking 'What if we're holograms?'

May 30 2010, By SAMANTHA GROSS , Associated Press Writer



Brian Greene, a string theorist known for bringing his complex field of science to the masses, and Tracy Day, his wife and organizing partner behind World Science Festival, pose in Times Square, New York, Wednesday May 19, 2010. (AP Photo/Bebeto Matthews)

(AP) -- Brian Greene works in a world where scientific reasoning rules all and imagination leads to the most unlikely truths. Greene and other "string theorists" are exploring a possible scenario in which people and the world around us are actually a 3-D holographic projection of two-dimensional data that exists outside the accessible universe.

It's a concept so mindbending for those who don't understand the complex math behind it that many might decide it's best left to the academics. But Greene wants to build public excitement about science, even as the U.S. loses ground in some areas - and intends to bring even

the most complex ideas to the masses at this week's World Science Festival, which starts June 2.

"The idea is to ... find the compelling narrative and stories that allow these programs to really feel like an experience and not a lesson," says Greene, wearing a leather jacket that practically exudes old-school, rock-star cool. It's an appropriate look for a man who has brought the possible inner workings of the universe to scores of non-geniuses through his book "The Elegant Universe" and the PBS specials by the same name.

The physicist founded the festival in 2008 with his wife, Tracy Day. In a way, they say, it's an extension of his work translating into layman's terms the fundamentals of [string theory](#) - the idea that the universe and its most fundamental forces could be best explained if everything around us were made up of minuscule, vibrating strings.

Greene is not the only scientist working to show Americans the relevance of the field, and hoping to make it cooler for U.S. youth. Despite the recent murmurings about the era of "geek chic," many teenagers still largely see science as a dorky pursuit, says Michio Kaku, a presenter at the festival and another string theorist who's built a career bringing his science to the public.

The numbers in the National Science Board's yearly examination of science and engineering indicators paint a mixed picture for American students. The number of high schoolers passing Advanced Placement exams in science quadrupled from 1990 to 2008; but between 2000 and 2006 the U.S. fell from seventh to 13th place in science literacy among 15-year-olds who took an international test.

Greene worries the U.S. is seeing a dissipation of its leadership in his field and others. When Columbia University, where Greene is a professor, received a grant earmarked for American postdoctoral

fellows, Greene says his department had a hard time finding Americans to fill the spots.

At the same time, NASA has been directed to stop launching astronauts into orbit around the Earth and instead have them ride Russian rockets to and from the International Space Station. And Greene and other [physicists](#) still keenly feel the loss of a large-scale project canceled in 1993 that could have launched exciting discoveries similar to those being made now at the Large Hadron Collider in Geneva.

"If the superconducting super collider had been built in Waxahachie, Texas, and the world was coming here to undertake the most powerful collisions of particles that we've ever been able to achieve, recreating conditions since the Big Bang in Texas as opposed to Geneva, would that be better for America? Yeah, I think it would be," says Greene.

The Large Hadron Collider, which was partially funded by the U.S., has already made history sending proton beams crashing into each other at unheard of speeds. And research is speeding ahead elsewhere as well. China is far outpacing the U.S. in the growth of research and development spending, even though the U.S. is the clear worldwide leader - responsible for one-third of the \$1.1 trillion spent worldwide in 2007.

Perhaps if Americans understood why science is vital, interesting and profitable, they would have pressured the government to finance the project here, Greene says.

It is what the festival is, in part, seeking to accomplish now. The event hopes to make science as much a part of our cultural scene as dance or music. In one event, choreographer Karole Armitage has created a dance piece illustrating concepts from contemporary physics.

Topics to be addressed in panel discussions include the plausibility of the science of "Star Trek." And in an event simulcast from Norway, the \$1 million Kavli prizes will be awarded in the fields of astrophysics, nanoscience and neuroscience.

The festival's opening night gala, which will honor British astrophysicist Stephen Hawking, includes the premiere of "Icarus at the Edge of Time," an orchestral work by Philip Glass based on Greene's children's book about a journey to a black hole.

Since authoring the tale, Greene has turned his focus to a book for adults on the possible ways that multiple universes might manifest themselves.

One of the more popular science-fiction scenarios - an alternate universe in which people are transformed to similar but evil or subtly different versions of themselves - is but a remote possibility, he says. Instead, it's more likely that multiple universes exist alongside each other like bubbles in a bubble bath. The extremely fast expansion of the universe in our distant past, combined with elements of string theory, suggest this as a possibility, Greene said.

It is almost as difficult to wrap one's head around as the possibility that we are all holograms projected over a distance, unable to detect the illusory nature of our 3-D world - another topic covered by a festival panel.

Greene's attempt to explain where our consciousness might reside, if we are indeed simply projections, is intriguing and perhaps less than comforting:

"It's there, too," he says. "Consciousness is nothing but the physical processes taking place in the brain. ... Consciousness is just another interaction of particles."

More information: <http://www.worldsciencefestival.com>

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Citation: At NYC sci fest, asking 'What if we're holograms?' (2010, May 30) retrieved 3 May 2024 from <https://phys.org/news/2010-05-nyc-sci-fest-holograms.html>

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