

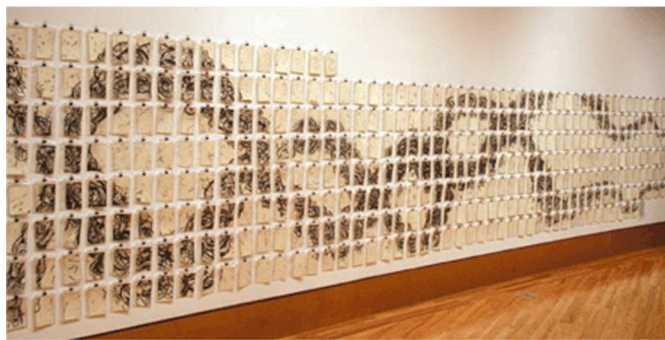
Painting the Genome for the Public

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Everything that lives, has ever lived, or will ever live on planet Earth has been created using adenine, cytosine, guanine, and thymine. Mapping how these four nucleotides arrange to create a human being helps us better understand how interconnected we are to one another and the natural world.

I recently created portraits of life's four building blocks shown below. It felt as if I were painting a relative, except that I was bringing molecular formulas, not ancestors, to life. Within each large colorful canvas, I painted imaginary subatomic landscapes with floating base-pairs.



Adenine



Cytosine



Guanine



Thymine

At the *Sequentia* exhibit's opening, I invited 400 museum visitors to help synthesize a DNA molecule. Through art, I wanted them to explore the sequence of events that make up life on the planet from the molecular to the monumental. Participants randomly selected postcards depicting one of the four nucleotide paintings and attached them along the exhibit's wall. The participatory art installation generated a 400-nucleotide sequence.

In Kalai Mathee's laboratory at the College of Medicine, Florida International University, we synthesized the DNA strand, propagated it within bacteria in a petri dish, and analyzed it against other existing sequences. Our randomly generated sequence could have belonged to any (or none) of Earth's species, but instead, it resembled the portion of human chromosome 3 that encodes proteins directing the navigation of axons in our neurons during development.

More of us need to realize that we came about in the same way that all other life did—we share the same biology. May we use the knowledge we develop to act as best we can to sustain life for all species sharing this planet.

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