

Biomedical Computation Review

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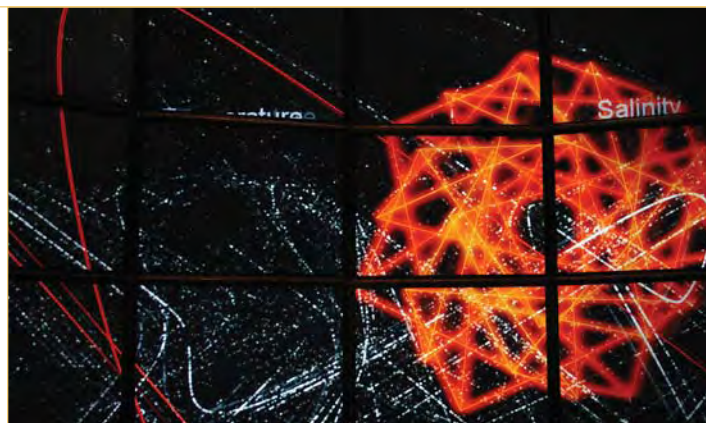
BY KRISTIN SAINANI, PhD

Sensational Sequences

What's it like to be immersed in a dataset of millions of DNA sequences? Audiences of *ATLAS in silico*—a new media artwork that explores novel ways to represent and intuitively understand nature in the metagenomic era—are about to find out. The installation, which is a hybrid of art, science, and technology, was displayed in Cleveland in July 2008 and will be displayed in Los Angeles in November. It is expected to reach more than 100,000 people.

ATLAS in silico transforms raw metagenomics data—predicted protein sequences derived from millions of ocean-dwelling microbes collected by the Global Ocean Survey—into haunting digital sounds and luminous 3D geometric forms that appear in a virtual world. Head- and hand-tracking systems allow users to “push and pull” on objects in 3D to see more detail. “The experience is one of being immersed in something that is flowing, as if you’re in a kind of fluid,” says **Ruth West**, who leads the collaborative project. West is director of interactive technologies at the University of California, Los Angeles, Center for Embedded Networked Sensing, and artist-research associate with the University of California, San Diego, Center for Research in Computing and the Arts.

“The whole idea is you are able to get some sense of the internal structure or patterns within the highly abstract data that you can viscerally relate to,” West says. More information is at: <http://www.atlasinsilico.net/>. □



ATLAS in silico uses a custom algorithm to translate genomic data, as well as social and environmental data from regions where the biological samples were collected, into unique 3D shapes, which are displayed on a room-sized, 100-million pixel semi-circular tiled display. The installation is equipped with computer vision, which allows users to interact with the data through simple hand and head movements.