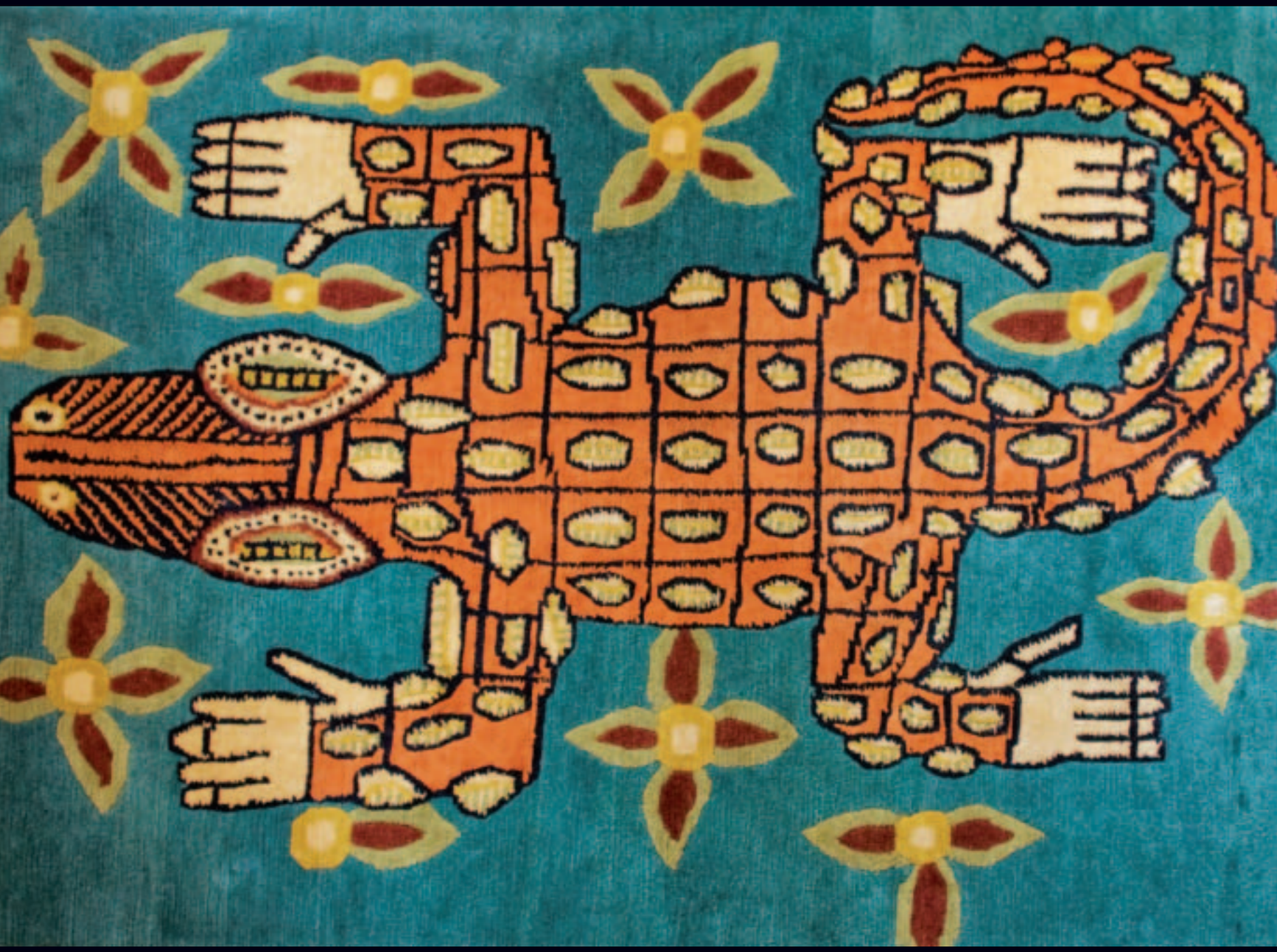

EXPERT WEAVES

Paul Bigeleisen trod a colorful path on his way to the anesthesiology department at the University of Pittsburgh.

As an undergraduate at Oberlin College in Ohio, Bigeleisen studied physics and built electronic violins. At the University of California, Berkeley, he embarked upon a graduate degree in theoretical physics. But then he injured his neck wrestling and, upon recuperating, opted to go to the medical school at the University of California, Davis. "A lot of the physics work seemed esoteric and lonely," he says. He trained as an anesthesiologist, entered a private practice, started a pharmaceutical software company, sold the company, and, following the lead of his grandmother and mother, began to design rugs. Eventually his rugs were sold internationally.

(Bigeleisen was inspired to design the crocodile rug shown above because the animal is a symbol of strength among African people who live along rivers—"though the indigenous people of these regions don't make woven rugs," he notes.)

Bigeleisen left private practice for university life. Then the rigors of academic medicine at the University of Rochester demanded that he abandon his rugs. But Bigeleisen could not abandon creativity. He began to study three-dimensional animation and, with his medical knowledge and the help of students, designed a virtual reality simulation to teach physicians the anatomy of the peripheral nervous system and how to perform ultrasound-guided nerve blocks. In 2004, the software won recognition in a visualization contest sponsored by the National Science Foundation and the journal *Science*.

The nerve block simulator is nearly ready for production.

In 2005, Bigeleisen arrived at Pitt, where he started an artificial intelligence lab in the Department of Anesthesiology. The Peter M. Winter Institute for Simulation Education and Research then asked him to create a virtual reality trainer for the airway, which the institute is testing.

—Joe Miksch

—Photo by Renee Rosensteel