

Blending Art and Science



Dr. Barton Rubenstein with his wife, Shereen, and their children, Ari (1), Sabrina (5) and Ben (8). "Oasis"

For many, art and science seem to be worlds apart: One, a world open to abstract interpretation and meaning; the other, a world that strives for certainties that are real and quantifiable. But are these worlds really so separate?

Dr. Barton Rubenstein's unique and diverse life experiences have allowed him to get these two realms to collide: He draws upon his scientific background to create mesmerizing works of art.

Trained in physics and mechanical engineering at Haverford College, Pennsylvania, Rubenstein then spent the next six years at the Weizmann Institute of Science, completing his M.Sc. in mathematics and computer science in 1990 and his Ph.D. in neurobiology in 1994.

Under the guidance of Prof. Dov Sagi, Rubenstein focused his research on the visual sciences – how we recognize objects and perceive patterns, motion and depth. One avenue he researched in par-

ticular was texture discrimination. "There was so much confusion in this field at the time. For example, it usually takes 1 to 10 seconds to find, say, a squirrel sitting in a tree. On the other hand, discriminating between the textures of bark of two different trees takes only a fraction of a second. This is unusual; the pathways used by the brain to process such information are complicated, so no one understood how it could be carried out so quickly. Those were exciting times for me, as we were the first ones to create a model to explain this phenomenon, resulting in its publication in the *Journal of the Optical Society of America*."

For Rubenstein, the Weizmann Institute was his pathway to success. "The research was simply intoxicating. The phenomenal friendship I forged with my supervisor, Dov, motivated me so much, we would sometimes spend six hours a day just philosophizing about ideas for experiments and

how to solve problems. I even remember, on a couple of occasions, Dov would persuade me to take time off from lab work so that I could really delve into researching a particular topic, and only when I had a firm grasp of it was I 'allowed' to return. I cannot think of any other institute that would encourage such an approach.

"Upon completing my Ph.D., there was already a position waiting for me at the National Institutes of Health. However, when I saw that campus, I was taken aback. Compared to the beautiful and nurturing atmosphere of the Weizmann Institute, I felt disorientated at NIH – all the departments were segregated and there was no connectivity or cross-talk between them like those I had experienced at Weizmann. It was at this moment that I began to doubt my future as a scientist."

Rubenstein spent the next two years thinking about art. Realizing that he wanted to make "the world a little better and more beautiful for the next generation," he took a great leap and decided to leave science and choose art as his life's work. Developing a keen interest in sculpture, he created seven or eight works during the first year and had his first show in 1996.

At Rubenstein Studios in Chevy Chase, Maryland, Rubenstein calls into play his physics and engineering background to incorporate visual phenomena and interesting perceptual illusions into sculptures of bronze, steel, stone and glass. He creates these sculptures for public spaces and commercial and corporate venues, as well as for private residences.

One such sculpture is "Oasis" – three arching and twisting forms rising out of a bed of stones