Where Art Meets Science

Inventor and musician Neil Siegel ’74 reflects on a career of creative accomplishments

by Alana Klein Prisco

When Neil Siegel ’74, vice president and chief engineer of Information Systems at Northrup Grumman, isn’t inventing groundbreaking military systems, he’s likely reading one of his 10,000 books or playing his favorite Persian instruments, the ney and tār. The Brooklyn-born, but L.A.-raised award-winning scientist and engineer, who added a Ph.D. from USC to his long list of accomplishments last May, has bridged the proverbial arts & sciences divide, proving that creativity is an integral part of discovery.

Simply put, “I like to create stuff,” Siegel says. “I find the creative process very satisfying because it combines technical skills and art, which explains why I have been a musician my whole life and why I chose the field of systems engineering.”

As the son of an electrical engineer (his mother) and a chemical engineer (his father), Siegel was destined to follow suit. He majored in mathematics as an undergraduate at USC, and then pursued a master’s degree in the field two years later. “Math was not very popular in those days. It was very rigorous, but I liked it enough to come back,” he says.

He then took a job at TRW, which was later bought by Northrop Grumman, as a computer programmer. One work assignment took Siegel and his wife, who is also an accomplished musician, to the Bristol region of England, where he worked for the British Ministry of Defense. “I had always dreamed of living overseas,” he says. Opting for an adventure, he and his wife chose to live in the village of Castle Combe, with a population of 100, in North Wilshire, England.

He continued a career in computer programming for another few years, but increasingly felt a pull toward systems engineering. “I fell in love with it. I found it so interesting and foundational,” he says.
From then on, systems engineering became his focus and passion. As a systems engineer, he invented several successful military and intelligence systems, including the Blue-Force Tracking system, a GPS-enabled system that has also found its way into consumer products, the Forward-Area Air Defense systems and the first unmanned aerial vehicle, among many others.

For such a prolific inventor of military programs, Siegel says he got involved in military projects by happenstance. “I didn't know much about the military or anyone who had been in it. But that’s what I was assigned to and it turned out to be a lot of fun,” Siegel says.

Even with such an illustrious career, Siegel still hungered for new challenges and enrolled in a Ph.D. program in Systems Engineering at USC last May. He describes his return to the classroom after 32 years as “just something I wanted to do,” playfully adding that it wasn’t a strategic career move. As a top executive at one of the leading industrial firms who holds more than 20 patents and the Simon Ramo Medal, one of the IEEE’s (an association for technology professionals) highest awards, he certainly doesn’t need a career booster. “I probably had some disadvantages as an older student but also some advantages having seen so much of the world,” Siegel says.