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USC Viterbi // Engineer

Ming Hsieh: A Clear Vision

HTE@USC AND THE BIOMEDICAL FUTURE // THE NAE CHALLENGE OF SECURING CYBERSPACE
NEXT-GENERATION SOUND RENDERING

A New Home for ICT

EXCEEDING EXPECTATIONS—AND ITS ORIGINAL RESEARCH FACILITIES

Photo by Steve Cohn

John Miller, left, Randall W. Hill Jr., USC President C. L. Max Nikias, Bill Allen, Scott Seigler and Karen Kukerin at the opening of the new Institute for Creative Technologies building.

The USC Institute for Creative Technologies (ICT) drew a group of luminaries to its new location in Playa Vista last fall for a ribbon-cutting ceremony.

USC President C. L. Max Nikias and guests from the military, state, city and entertainment industries were on hand, along with ICT executive director Randall W. Hill Jr.

The event showcased the Institute's new LEED-certified building and the latest immersive technologies being developed. These technologies have already had a dramatic impact on military training, mental health treatment and movie special effects.

"In many ways, ICT represents USC at its very best," Nikias said at the podium. "As a university, we truly shine in the area of applied research. We focus on solving societal problems. We concentrate on improving people's lives."

Hill read from the original U.S. Army contract that established ICT as a university-affiliated research center at USC: "ICT will be a joint effort of the Army, the entertainment industry and academe—an innovative team to advance dazzling new media and ultimately benefit training and education for everyone in America."

ICT's technology prototypes can be found on close to 70 military installations and have benefited more than 50,000 troops. Its virtual human technologies teach negotiation skills to soldiers, train clinicians in how to interview patients and answer students' questions about science and technology.

Its visual effects techniques are used in major motion pictures and were recognized with an Academy Award last year.

The move to the new building, which features a large theatre, was prompted by the institute's growth from just a handful of researchers a decade ago to a current staff of close to 200. Its researchers include 13 faculty members from the USC Department of Computer Science. //

PH.D. STUDENT WINS ONE OF IEEE'S HIGHEST HONORS

AWARD RECOGNIZES HIS 'DIGITAL BATTLEFIELD' CREATION

Neil G. Siegel is not your typical Ph.D. student.

For one thing, he's a member of the National Academy of Engineering. For another, he has more than 20 patents spanning real-time manufacturing, medical systems, communications protocols and computing systems.

And now Siegel is receiving the 2011 IEEE Simon Ramo Medal after becoming an IEEE Fellow, the organization's highest grade of membership. A doctoral candidate in the Daniel Epstein Department of Industrial and Systems Engineering, Siegel is a vice president and chief engineer for Northrop Grumman Corporation's Information Systems sector.

"It isn't too often that you have a grad student who's a member of the National Academy," said Barry Boehm, Siegel's principal faculty advisor. "I've been very impressed with him." Coincidentally, Boehm, the Thompson Ramo Wooldrige (TRW) professor of software engineering, received the Ramo Medal last year. In 2008 the honor went to USC President C. L. Max Nikias.

The medal honors exceptional achievement in systems engineering and systems science, and commemorates the distinguished engineering contributions of Simon Ramo. Ramo was one of the founders of TRW, which was acquired by Northrop Grumman in 2002. His wife, Virginia Ramo, who passed away in 2009, was a longtime member of the USC Board of Trustees.

Siegel was honored for pioneering engineering at Northrop Grumman "that led to the successful development of the digital battlefield, a life-saving and integral part of U.S. Army operations," according to IEEE.

His system is deployed on tens of thousands of vehicles worldwide, including in Bosnia, Kosovo, Afghanistan and Iraq. It is credited with significantly increasing U.S. Army combat effectiveness and for saving the lives of hundreds of soldiers.

Siegel also helped develop the Army's first unmanned aerial vehicle and invented important techniques for the development of large-scale, real-time software systems. He has worked in the steel, movie and other commercial industries.

Siegel earned his bachelor's and master's degrees in mathematics at USC. He became a vice president at Northrop Grumman in 1998. //