

3 Faculty Receive Okawa Awards

Three Engineers Receive 2003 Okawa Foundation Awards

November 14, 2003 —

Three University of Southern California School of Engineering professors were among the eight scholars receiving \$10,000 Okawa Foundation awards this year for their enterprising work in information technology and telecommunications.

Those accepting the research awards at a San Francisco awards ceremony held Oct. 23 were Melvin A. Breuer, professor of electrical engineering; Milind Tambe, associate professor of computer science; and Aiichiro Nakano, associate professor of computer science.

Breuer was recognized for his pioneering efforts to introduce a novel concept of error tolerance. The electrical engineer described the concept in a paper entitled "Increasing the Effective Yield of VLSI Chips via Design and Test."

"As nanotechnology, bio-circuitry and quantum computing become more prevalent, the traditional assumption of deterministic and always correct computation will not always be achievable," Breuer said. "New computational paradigms are needed for these new computational fabrics."

Breuer said he would use his Okawa research award to support his work to enhance the functional yield of very large scale integration systems (VLSI) die by finding ways to test and employ parts that have defects.

Milind Tambe was honored for his research in computer multi-agent systems and, more specifically, for his work in multi-agent teamwork, adjustable autonomy and distributed negotiations. He plans to use his Okawa Foundation grant to continue development of automated "personal assistants." The goal is to design an automated assistant that will eventually carry out routine day-to-day building operations.

"My overall vision is to apply large teams of software agents in ever-larger-scale human organizations," he said. "Individual software agents embedded within the organization would act as enduring personal assistants to human users in the organization; more importantly, they would work together in teams to accomplish cooperative tasks. Such 'agentified' organizations could potentially revolutionize the way a variety of day-to-day tasks are carried out by human organizations."

Aiichiro Nakano, recognized for his work in scalable scientific algorithms, grid computing on geographically distributed parallel computers and scientific visualization, plans to use his award money to develop enabling computational technologies for scientists in the US, Japan and Asia-Pacific.

"That's important because it will allow scientists to perform multibillion-atom simulations collaboratively on a grid of distributed Tera-to-Petaflop computers, as well as visualization platforms, so they can study nanodevices coupled to biological systems," he said.

The Okawa awards, named after Sega Corp. founder Isao Okawa, are awarded to faculty of exceptional promise working in the area of information technology. Also attending this year's ceremony were USC colleagues Gerard Medioni, chair of the Department of Computer Science Department, and Cauligi Raghavendra, professor of electrical engineering systems. Others receiving the award hail from UC Berkeley, Stanford University, Cal Tech and UCLA.