

Computer Science Professor Wins Oscar

7 March 2006



Demetri Terzopoulos

And the Oscar goes to ... Professor Demetri Terzopoulos!

Terzopoulos, a status-only professor in computer science and electrical and computer engineering, walked the red carpet and received a technical achievement award Feb. 18 at the Academy of Motion Picture Arts and Sciences Scientific and Technical Achievement Awards in Beverly Hills.

"I thanked the academy and the Sci-Tech and I thanked my former colleagues," Terzopoulos said. "And I thanked my mom."

Canadian actress Rachel McAdams hosted the black-tie presentation dinner at the Beverly Hilton and gave Terzopoulos both his certificate and a kiss.

Along with Microsoft senior researcher John Platt, Terzopoulos, also a professor at the University of California at Los Angeles, received the award for a computer animation technology they developed that makes simulated cloth which looks and moves

like actual fabric. According to the academy, it was "a milestone in computer graphics." The technique was published in a 1987 paper titled *Elastically Deformable Models* and a decade later, animators at Pixar Animation Studios and elsewhere began using variations of this method. Simulated cloth has now appeared in movies such as *Star Wars* (Episodes II and III), the *Harry Potter* series and the *Lord of the Rings* films.

In those films, the technique was used to create the clothing for computer-generated characters such as Yoda and Gollum. "In addition to cloth, which is surface-like, we could also do strands like hair and fur or three-dimensional solid objects made of, say, rubber and sponge."

Before Terzopoulos' paper, which applied the principles of physics, computer graphics models were based purely on geometry. "Our paper was the basis of a very popular trend in animation now, which is physics-based modelling," he said.

In the movie *Monsters Inc.*, for example, the character of the little girl, Boo, wore a nightshirt that was simulated using the computer technique, as was the shaggy blue fur of Sully, the character voiced by actor John Goodman.

Scientific and Technical Awards are presented by the academy for devices, methods, formulas, discoveries or inventions of special and outstanding value to the arts and sciences of motion pictures. Portions of the awards ceremony were taped for inclusion in the March 5 Academy Awards broadcast.

Source: University of Toronto

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