

Jiving With a Machine

Sommer Gentry is an award-winning swing dancer—and a graduate student in electrical engineering at the Massachusetts Institute of Technology. Surprisingly, those two worlds come together smoothly in the lab.

Good dancers can execute complex, unrehearsed sequences while blindfolded, using only touch signals from the leader. Inspired by her passion for dance, Gentry is trying to create a common vocabulary of dance moves that will allow humans and robots to communicate as effectively as a human duo does.

As a dance instructor, Gentry analyzes the connections between movement and signaling—for example, keeping a straight arm restricts the ability of dancing partners to signal the next move to each other. In the lab, she uses those insights to make robots' movements more natural and expressive.

Gentry hopes her work will someday lead to more capable robotic assistants for a variety of tasks, including surgery. And she's off to a good start: Last year, she garnered an award for best student paper at the IEEE "Systems, Man and Cybernetics" conference.



RANDOM SAMPLES

PEOPLE

edited by Yudhijit Bhattacharjee

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MONEY MATTERS

Skygazing sentries. A California congressman thinks that amateur astronomers should receive a reward for spotting and tracking near-Earth asteroids.

"Earth has experienced several near misses with asteroids that would have proven catastrophic," notes legislation introduced by U.S. Representative Dana Rohrabacher (R-CA) that was approved by the full House last week. "And the scientific community relies heavily on amateur astronomers to discover and track these objects."

The bill, H.R. 912, would allow NASA to award \$3000 annually to the stargazer who discovers the brightest near-Earth asteroid. The award posthumously honors Charles "Pete" Conrad, the third man to walk on the moon.

AWARDS

Hear, hear. Masakazu (Mark) Konishi of the California Institute of Technology in Pasadena is the first winner of a \$50,000 neuroscience award presented by the Massachusetts Institute of Technology's McGovern Institute. The Edward M. Scolnick prize, named in honor of the longtime president of Merck Research Laboratories, will be awarded every year to "recognize an outstanding discovery

studies how songbirds learn and remember their tunes.

Konishi doesn't have plans for the prize money yet, but when he won the International Prize for Biology from Japan several years ago, he plowed the \$100,000 back into his lab for research.

JOBS

Patient proximity. An expanding Children's Hospital in Boston has snagged a top stem cell expert from across the Charles River. George Daley, 43, recently left the Whitehead Institute for Biomedical Research at the Massachusetts Institute of Technology in Cambridge for Children's new digs: a spacious 12-floor research building that opened in December.

Daley is one of 11 senior researchers whom the hospital has hired in the past 5 months. Its goal of swelling to 100 labs—up from 60—is to find new directions for biomedical science, says Bruce Zetter, the hospital's vice president for research. Besides launching new multidisciplinary programs in vascular biology and stem cell

research, the hospital is melding fields within individual research projects—for instance, by bringing together geneticists, informaticists, and neuroscientists.

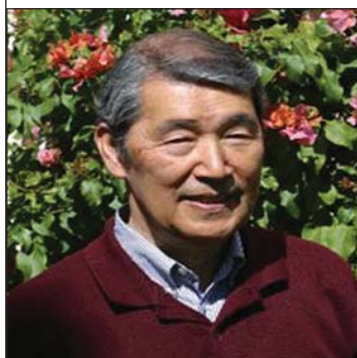
Daley hopes that his work with genetically altered stem cells in mice will someday translate into treatments for sickle cell anemia and thalassemia.



GIVING BACK

Ring ing endorsement. Electrical engineer Andrew Viterbi was celebrating the Jewish festival of Purim, which marks the foiling of a plot against his religious ancestors, when he discovered his own solution to a vexing problem. The breakthrough led to an algorithm that proved to be an enabling technology for the cell-phone industry, allowing millions of cell phones to function simultaneously without interfering with one another. It also made him a billionaire.

Last week, the retired co-founder of San Diego, California-based Qualcomm delivered a \$52 million note of thanks to his alma mater, the University of Southern California (USC) in Los Angeles, where he earned his Ph.D. in 1962. Viterbi, 68, has also accepted a professorship at USC's School of Engineering, which now bears his name.



or significant advance in the field of neuroscience."

Konishi, 71, and his colleagues study barn owls, which hunt in the dark, to learn how the brain localizes a sound to a particular place. He discovered that a part of the brain called the inferior colliculus contains a neural map of so-called auditory space. Konishi also

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