

U.S. SUPREME COURT

Ginsburg defends ties to group

■ Supreme Court Justice Ruth Bader Ginsburg says her speaking involvement with a womens' advocacy group does not pose a conflict of interest in her role as a jurist.

BY DAVID G. SAVAGE
AND RICHARD A. SERRANO
Los Angeles Times Service

WASHINGTON — Supreme Court Justice Ruth Bader Ginsburg has defended her involvement with the liberal NOW Legal Defense and Education Fund and said justices should not "lightly recuse" themselves because of a possible conflict of interest.

Responding to questions from law students at the University of Connecticut in Hartford on Friday, Ginsburg said she did not see a problem in her lending her name and

presence to an annual lecture series that the fund cosponsors with the Association of the Bar of the City of New York.

In a Los Angeles Times story last week, some legal experts said Ginsburg should not be affiliated with the legal defense fund because it often is involved in cases before the Supreme Court.

In January, for instance, Ginsburg voted on the side the legal defense fund advocated in a medical screening case. Two weeks later, the justice made her latest speaking

appearance for the lecture series.

Ginsburg said Friday that the lecture series "is not a money-making enterprise."

"I think and thought and still think it's a lovely thing. Let the lecture speak for itself," she said.

The issue of connections between justices and individuals or groups with cases before the court arose when Justice Antonin Scalia went duck hunting in early January with Vice President Dick Cheney, shortly after the justices agreed to hear Cheney's appeal involving his energy policy task force. Cheney's case is to be argued before the court April 27.

Lawyers for Sierra Club have urged Scalia to step aside, and if he refuses, they want the full court to force him out. The recusal issue is



GINSBURG

likely to come before the justices later this month.

In her comments Friday, Ginsburg said recusals are frowned upon by the justices.

"In the end, it's a decision the individual justice makes, but always with consultation among the rest of us," she said.

She said the Supreme Court is unique because the justices

cannot be replaced by outsiders.

"On the Supreme Court, if one of us is out, that means there are only eight," she said. "There is a risk we will not be able to decide the case — that it will be divided evenly. Some of my colleagues think a recusal in the Supreme Court is equivalent to a vote against the petitioner."

She did not cite an example to illustrate her point. But if Scalia were to recuse himself from the Cheney case and the court were to split 4-4, the vice president would lose, and he would be obliged to turn over documents detailing who advised his energy task force.

"There is no one to replace

us," she said. "It makes it quite important that we not lightly recuse ourselves."

By contrast, trial judges and appellate judges are "replaceable," she said. If a judge sees a need to step aside because of a possible conflict, another judge can step in.

Referring to her earlier years on the U.S. Court of Appeals, Ginsburg said, "if there was any doubt, I would say, 'I'll skip this one.'"

She said, however, that the recusal rules are strict when Supreme Court justices have a financial stake in the outcome of a case. "If I owned one share of General Motors, I couldn't sit on that case," she said.

TECHNOLOGY | THE GRAND CHALLENGE

Robot race across the desert does not compute

TECHNOLOGY | AN EXOSKELETON

Strap-on legs could produce super troopers

Robot race across the desert does not compute



PHOTOS BY DAMIAN DOVARGANES/AP

GAME OVER: A GhostRider motorcycle from the University of California at Berkeley collapses at the starting line.

■ Early problems caused by technical glitches have put an end to a \$1 million robot race across 150 miles of the Mojave Desert.



cover the course in less than 10 hours, but most involved in the race were skeptical that any vehicle entered would accomplish the mission.

The teams were given a

Strap-on legs could produce super troopers



UNIVERSITY OF CALIFORNIA-BERKELEY/AP

LOOKS LIKE THE TERMINATOR? A model wears the Berkeley Lower Extremities Exoskeleton.

■ Strap-on robotic legs are designed to enable people to carry heavy loads for long distances.

BY MICHELLE LOCKE

drive the device," says Kazerooni, a professor of mechanical engineering. "The pilot becomes an integral part of the exoskeleton."

In lab experiments, says

By technical glitches have put an end to a \$1 million robot race across 150 miles of the Mojave Desert.

BY ANDREW BRIDGES
Associated Press

BARSTOW, Calif. — It looks like we won't be seeing any robot driver's licenses issued anytime soon.

All 15 self-navigating vehicles in a 150-mile race across the Mojave Desert were knocked out within a few miles of the starting gate Saturday, victims of technical glitches, barbed-wire fences and rugged terrain.

None could claim the \$1 million prize offered by a military agency seeking to develop autonomous vehicles that could be used in combat.

One of the early favorites, a military Humvee converted by Carnegie Mellon University students, managed to travel 7.4 miles before veering off course and snapping an axle during the race.

"It was supposed to be challenging. We knew it would be challenging," said Jan Walker, a spokeswoman for the Pentagon agency that sponsored the race. "We're involved because it's a technology we really need to push forward."

Officials foresee using computer-run robots free of remote controls to ferry supplies in war zones.

The Defense Advanced Research Projects Agency spent \$13 million on the Grand Challenge. It estimates that competitors laid out a total of four to five times that amount developing their entries, which rely on global positioning satellites as well as a vari-



CONVERTED GOLF CART: Virginia Tech's Cliff failed within 100 yards of the start, when its brakes seized up.



FORMER HUMVEE: Carnegie Mellon's Sandstorm is first out of the gate but breaks down 45 minutes into the race.

ety of sensors, lasers, radar and cameras to orient themselves and detect and avoid obstacles.

Most of the vehicles Saturday made it less than a mile before stalling, overturning or running off course. One six-wheeled robot built by a Louisiana team was disqualified after it became entangled in barbed wire. Others crashed seconds after starting.

"It's a tough challenge —

it's a grand challenge — you can always bet that it's not doable. But if you don't push the limits, you can't learn," Enscio Inc. engineer Venkatesh Vasudevan said shortly after his company's entry rolled onto its side several hundred yards from the starting gate.

The Pentagon's research and development agency would have awarded \$1 million to the first team whose micro-circuit-studded vehicle could

10 hours, but most involved in the race were skeptical that any vehicle entered would accomplish the mission.

The teams were given a map of the course two hours before the start. It included hundreds of waypoints marked by precise coordinates. Team members were not allowed to steer or touch the robots.

Carnegie Mellon's Humvee was the first to set out on the brush-and-boulder-dotted course. It took off at a fast clip just after dawn. Within 15 minutes, the vehicle dubbed Sandstorm had covered about seven miles over mostly flat desert, but it stalled near the tiny town of Daggett.

The race was over in about four hours after the final competitors were disabled. Competitors suffered a variety of problems, including stuck brakes and malfunctioning satellite navigation equipment.

Virginia Tech's converted golf cart failed within 100 yards of the starting line when its brakes seized up. It was driven off the course by 23-year-old senior Nick Elder.

"Our vehicle knew where to go, but our brakes were holding us back," said the disappointed Elder.

Twenty-one teams attempted to qualify in trials earlier last week, but just seven completed a flat, 1.36-mile obstacle course at the California Speedway in Fontana, east of Los Angeles. Some teams were allowed to compete Saturday without finishing the obstacle course.

With no entries finishing, the agency could host another contest in 2006.

are designed to enable people to carry heavy loads for long distances.

BY MICHELLE LOCKE
Associated Press

BERKELEY, Calif. — Move over Bionic Man and make room for BLEEX — the Berkeley Lower Extremities Exoskeleton, with strap-on robotic legs designed to turn an ordinary human into a super strider.

Ultimately intended to help people like soldiers or firefighters carry heavy loads for long distances, these boots are made for marching.

"The design of this exoskeleton really benefits from human intellect and the strength of the machine," says Homayoon Kazerooni, who directs the Robotics and Human Engineering Laboratory at the University of California-Berkeley.

The exoskeleton consists of a pair of mechanical metal leg braces that include a power unit and a backpack-like frame.

The braces are attached to a modified pair of Army boots and are also connected, although less rigidly, to the user's legs.

More than 40 sensors and hydraulic mechanisms function like a human nervous system, constantly calculating how to distribute the weight being borne and create a minimal load for the wearer.

"There is no joystick, no keyboard, no push button to

Kazerooni, a professor of mechanical engineering. "The pilot becomes an integral part of the exoskeleton."

In lab experiments, says Kazerooni, testers have walked around in the 100-pound exoskeleton plus a 70-pound backpack and felt as if they carried just five pounds.

Eventually, the device could help rescuers haul heavy equipment up high-rise buildings or turn tired troops into striding super soldiers.

What it won't do is turn you into a Borg, the gadget-happy gladiators of *Star Trek* fame.

"The exoskeleton is not going to magically transform people into killing machines," says Kazerooni, known to his students as Professor Kaz.

"They're really good, it turns out, at enabling firefighters, soldiers, post-disaster rescue crews to carry heavy loads over great distances for hours."

Video of the BLEEX in action shows a steel-spiked symbiosis of man and machine, marching about to the techno-industrial drone of grinding motors.

The next step for the BLEEX team is making the power source quieter and stronger and miniaturizing components.

BLEEX is funded by the Defense Advanced Research Projects Agency, the Pentagon research and development arm.

■ MORE ONLINE: VIDEO OF THE BLEEX CAN BE VIEWED AT www.me.berkeley.edu/hel/bleex.htm