UNH in the News

- UNH professors impressed by 'IT' scooter
- UNH dean suspects China's inflated catches mask overfishing

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and UNH Connection archives

UNH professors impressed by 'IT' scooter

Eagle-Tribune
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By James A. Kimble

It may not float on air, but "IT" certainly got people's attention this morning.

Inventor Dean Kamen ended months of speculation today after revealing the details of his Segway Human Transporter, a battery-powered, two-wheeled scooter he believes could revolutionize transportation.

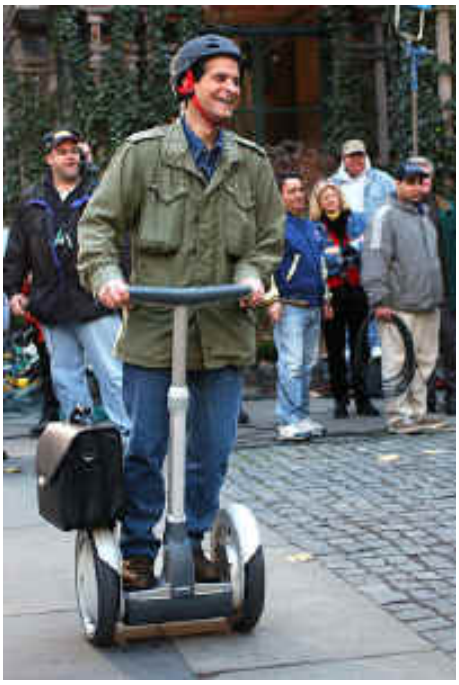
Inventor Dean Kamen demonstrates his Segway Human Transporter. The scooter uses several gyros and sensors "that work like your inner ear," to detect where the driver wants to go, Kamen explained this morning on ABC's "Good Morning America." The show's hosts, Diane Sawyer and Charles Gibson, tried out the Segway before a crowd of applauding spectators in front of the television studio in New York City.

"You think forward and go forward. You think backward and go backward," Kamen said. "All the knowledge that went into walking went into this machine."

The Segway looks like a cross between an old rotary lawn mower and a Razor scooter, and travels at a top speed of about 17 miles per hour. An individualized electronic key is required to operate it.

"My first reaction was it does look like a lot of fun," said **Jim Dombrosk** '95, director of energy at the **University of New Hampshire** in Durham. "It looks like it doesn't use a lot of electricity -- about five cents a day on average. It'd be nice if had a small solar panel for it."

Andy Kun '92, '94G, a professor of electrical and computer engineering at UNH, said, "It looks very neat. It looks like a difficult thing to accomplish." Kun said he



New Hampshire inventor Dean Kamen and his scooter

could see people buying the Segway, especially people living in large cities or on college campuses.

Kun helped invent a bi-ped robot that could "learn" how to walk in 1997 with professor Tom Miller, and saw Kamen demonstrate his revolutionary robotic wheelchair at a conference in Boston last year.

"Clearly, it's a similar technology," Kun said about the Segway.

Whether consumers react like Dombrosk and Kun and plunk down the estimated $3,000 to buy their own Segway remains to be seen. Consumers won't be able to buy a model until late 2002, Kamen said this morning.

"I think there's a type of person who'd buy it, a gadget-liker type of person like myself. " Dombrosk said. "It depends on where you are. I can see people use it here on campus. But I'm not sure if I see people giving up their bicycles for it."

Kamen said he is banking on Segway's efficiency and people in big cities looking for a cleaner way to travel aside from walking.

"What used to take you a half hour now takes seven or eight minutes," Kamen said.

Kamen holds roughly 100 U.S. patents. His other inventions include the heart stent used by Vice President Dick Cheney and a wheelchair that can climb stairs.

Kamen said the scooter requires little electricity. Kamen's Manchester, N.H.-based firm DEKA Research and Development will oversee production of the machine.

According to those who have ridden it, the scooter is difficult to fall from or knock over due to gyroscopes that work to keep it upright and discern where the rider wants to go. Speed and direction are controlled by the rider's shifting weight.

Riders stand upright, facing forward over the invention's single axle, navigating with a bicycle-like handlebar. A single battery charge can propel the scooter 17 miles over level ground, with each hour of charge providing power for two hours' use, according to an article in Time Magazine today.

The U.S. Postal Service, U.S. Forestry Department and the Atlanta Police Department will be among the first to try out an industrial model of the Segway, buying 80-pound heavy-duty models for $8,000 apiece, Kamen said this morning.

The Postal Service plans to test 20 Segways on mail routes in Concord, N.H., and Fort Myers, Fla., starting in January, in hopes of enabling carriers to cover more ground.

(The Associated Press contributed to this report.)

UNH dean suspects China's inflated catches mask overfishing

New Scientist
Dec. 1, 2001

By Mark Schrope

Global fish stocks may have declined without anyone noticing. For the past few years, China has unwittingly misreported how much fish it takes from its ocean waters, masking the extent of worldwide overfishing.

There have been long-standing concerns that China has been reporting implausibly high fish catches. Now a computer model of the area developed by researchers based in British Columbia suggests that, between 1995 and 1999, China's claimed ocean fish catch was about twice what should be possible based on conditions in the area. Estimates of annual global fish catches, which are in the range of 80 million tonnes, could have been inflated by about 5 million tonnes.

Andrew Rosenberg, a former deputy director of the US National Marine Fisheries Service who is now based at the **University of New Hampshire** in Durham, says the work challenges the conventional wisdom that the global fish catch is stable. "The inflated numbers we had in the past gave everybody the sense that there is plenty of time to deal with this issue. There isn't plenty of time," he says. Rosenberg hopes the information will spur on the many governments who have signed fishing treaties but have yet to implement them.

The UN Food and Agriculture Organization compiles statistics on global fish catches. But they are based on data voluntarily provided by each country, which is often impossible to verify. So Reg Watson and Daniel Pauly at the University of British Columbia estimated the likely fish catch in a given area using a computer model that considers factors such as how much food is available at certain depths, temperatures and latitudes. The model successfully predicted the majority of reported catches at different locations around the world. But there were massive discrepancies for Chinese waters.

Based on the analysis, the team concluded that China had inflated its figures by roughly 100 per cent. Other lines of evidence support this conclusion. For instance, Chinese researchers have published data showing fish stocks have declined in areas where reported catches have increased.

Pauly worked with Lillian Chang, a Chinese-born fishing consultant based in Canada, on a study of Chinese fishing practices. They concluded that the root of the problem was that junior fishery managers in China were more likely to gain promotion if production increased in their fishing grounds.

Richard Grainger, head of statistics at the FAO's fisheries department in Rome, says China has been working with the FAO to reform its reporting system and is dedicated to managing its fisheries more effectively. "When they decide to do something, they don't muck about."

But if Watson and Pauly's analysis is correct, global fish numbers have appeared to be stable or even growing, despite an actual decline. Rosenberg says that this has encouraged governments to

continue subsidising fishing.

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