

UO yields medical research

■ An open house showcases the work of three professors and their doctoral students

By Andrew Adams
Oregon Daily Emerald

Doctoral student Ji-Hang Lee placed a skintight swimmer's cap over his head and calmly sat down while professor Paul von Donkelaar charged a magnetic pulse machine. Von Donkelaar used markings on the cap to find exactly which part of the brain he wanted to stimulate and then gave Lee a slight charge of magnetic energy directly to the brain.

Lee's fingers twitched involuntarily, and he gave a big smile to those gathered around him — it was just another day in the motor control lab.

"It's nothing," Lee said. "Just a little twitch."

Von Donkelaar's exhibit of his research was just one part of an open house held by the department of exercise and movement science. The event, held last week, showcased the work of von Donkelaar and professors Li-Shan Chou and Christopher Minson. Chou is developing imaging technology to further biomechanics research, and Minson is studying cardiovascular systems.

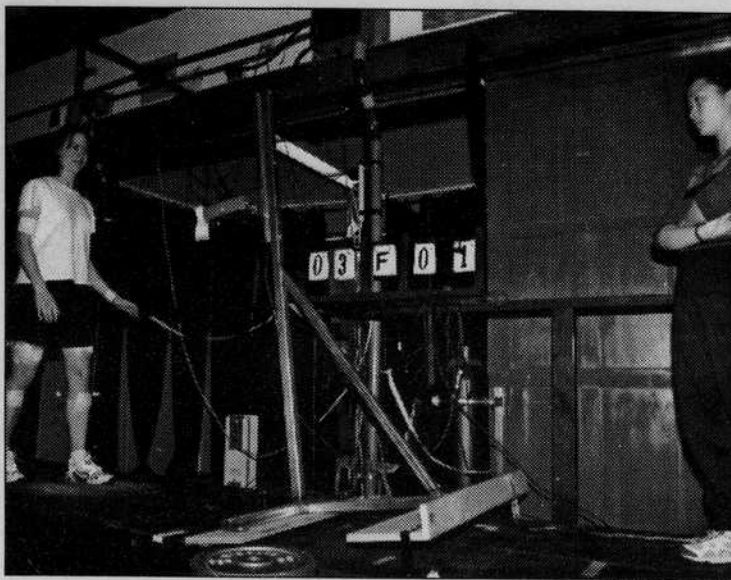
While students go home this holiday break, these researchers will keep at the work they carry out the rest of the year.

Louis Osternig, head of the division of graduate studies, said the department offered the open house to introduce members of the local health community to the researchers and their work.

"They're bringing new areas of experience to the department, and we wanted to showcase that," he said.

Minson and Chou have both come to the University from the Mayo Clinic in Minnesota.

Von Donkelaar is using the magnetic pulse machine to study what parts of the brain are key in hand-eye coordination. By charging specific areas of the brain with magnetic energy, he can perturb those areas for milliseconds. Judging how a patient does in hand-eye coordination tasks after receiving a pulse can tell von Donkelaar what parts of the brain play a role in enabling a person to perform those tasks. He does this by tracking eye activity during the test.



Doctoral students Jeanne Laugan (left) and Jessie Chen use a hydraulic platform to study how people regain their balance. Their work is used in treating stroke patients.

"What we show is that the normal eye influence is disrupted, and from that we infer what brain parts play a role in the interaction," he said.

Part of the work with the brain study can also be applied to studying how a stroke affects a person, but another project in von Donkelaar's lab can be directly applied to helping stroke victims recover.

Laura Adomaitis, a doctoral student working with von Donkelaar, demonstrated a device the department is using to help stroke victims recover some of their balance. Using a hydraulic platform, the researchers are able to analyze how stroke patients respond to losing their balance.

Adomaitis said a patient is strapped to a harness, which is connected to a beam above the platform. The platform then shifts and sensors strapped to the patient's muscles and connected to a computer tell researchers how the patient adjusts to the shifting platform. Information gathered in the experiments is then incorporated into treatment therapies for the stroke victims.

"This gives us a lot of information," Adomaitis said. "We've trained four subjects and the results are very positive."

While those in the motor control lab help people regain their movement, professor Chou is studying exactly how people move.

His lab is using the newest imaging technology to study the me-

chanics of common movement. Chou and his assistants then use this information to study how different forces created by movement affect human joints.

"We know when you walk or run or jump how much force is put on the joints," he said.

By using special cameras and reflective sensors placed on a person's body, Chou is able to create a simple re-creation of how that person moves. This re-creation provides a vital visual resource for physicians to understand what the forces do to a person's movement.

"If you just show the numbers, that doesn't make so much sense," he said.

Chou said the next step in the research is to take the simple recreation and turn it into an animation. Then researchers could input obstacles into the animation to understand how a patient would deal with those obstacles. While this technique has not yet been developed, Chou is confident that it will come soon.

Professor Minson is studying how heat waves often have deadly consequences for the elderly. To do this, he uses a special suit that can dramatically lower or raise a person's core temperature. He then uses special sensors to examine how the body responds to the temperature changes.

Although the researchers have made some breakthroughs in their fields, they all acknowledge there is still work to be done.

Holiday gift options abound

■ Items on college students' wish lists this year range from Dreamcasts to hard cash

Nick Kulmac
for the Emerald

Surprise — talking fish and scooters are hot gifts this year, and the holiday shopping season is in full swing. The stores are packed with spirited shoppers. Grandmothers are throwing sharp elbows in Mervyn's. Children are getting mugged for their PlayStation2s, and Furby's, last year's big hit, are on clearance at Rite-Aid.

All the new gizmos are on the shelves, and that means goodbye savings account.

So what do college students want this holiday season?

Kate Garoutte-Smith, a sales employee at Spencer Gifts in the Gateway Mall, said the big sellers this year for the age group are lava lamps, fart machines and singing fish.

"Those are our top sellers by far

this year," Garoutte-Smith said. "Scooters are also pretty big this season."

Deven Morganstern, a junior political science major, said electronics are at the top of his list.

"A home entertainment system would be real nice, but that's probably a little pricey," he said.

Employees at Game Crazy in the Gateway Mall said Sega Dreamcasts are selling quickly.

"Lately, we have been selling at least one Dreamcast every day," said Patrick Leonard, a Game Crazy employee. "And as far as games go, Shenmue and Tony Hawk 2 are the ones everyone wants."

Not all students are interested in high-tech toys. Britton Kiefer, a junior psychology major, said he wants gifts that take him to the outdoors.

"I'm asking for a surfboard for the summer, and some warm clothes I can wear outdoors during the winter," Kiefer said.

what to ask for.

"I have no idea what I want this year," said Ben Cordell, an undecided freshman.

For many students, money tops their wish lists. Wishfully thinking students also said they wouldn't mind receiving cars, computers, car stereos with CD players or some leather pants.

Where do you go to get all this stuff? The malls have most of the items.

If you can't stand the packed aisles, screaming children and crowded stores, you might want to try shopping online. Online shopping offers competitive prices and just about every store you can think of without the craziness of going out.

With this in mind, you are ready to go shopping for the college students on your list or for yourself.

If these suggestions don't spark any ideas, or you can't afford anything listed, try a Chia Pet. You can't go wrong there.

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