

Professor earns 'Outstanding Scientist' honor

■ Geraldine Richmond received the distinction for her work on the properties of water surfaces

By Brooke Ross
Oregon Daily Emerald

The Oregon Academy of Sciences recently named University chemistry professor Geraldine Richmond the Outstanding Scientist for 2001 for her research in studying water surfaces.

Richmond, who has been a member of the State Board of Higher Education for more than a year, said her research provides a better understanding of the differences between properties on and below the surface of water. This information yields clues into how soaps work and what happens to water molecules when they interact with oil, she said.

"It's important to understand the properties on the surface of water because they interact with the world around you," Richmond said. "There's nothing more important in the world than water."

A research team of about a dozen graduate students helps Richmond carry out the complicated laser experiments.

Betsy Raymond, a graduate student in physics, works in Richmond's lab and said she enjoys the way the professor gives the team members the freedom to come up with their own ideas.

"Geraldine gives you a place to start, and then lets you go and decide what you think the relevant problems are," she said.

The students do a lot of the hands-on work in studying water surfaces, Raymond said. The procedure, vibrational sum frequency spectroscopy, begins by sending two differently colored laser beams into a dish of water. Raymond said the mixing of the two colors releases a completely new color, and the students then study how the molecules in the new light vibrate.

Raymond said examining the vibrations reveals how the molecules are aligned at the surface, allowing the scientists to examine the water at microscopic levels not normally visible to the naked eye.

Raymond said one discovery Richmond and her team have made using the laser technique involves how soaps work when they interact with water and what happens to the water's surface as more or less soap is added.

"Soap has two parts," she said. "One part of its molecule likes water, and the other part doesn't."

She said the part of the soap molecule that is hydrophobic grabs the dirt so the water-friendly part can wash it away.

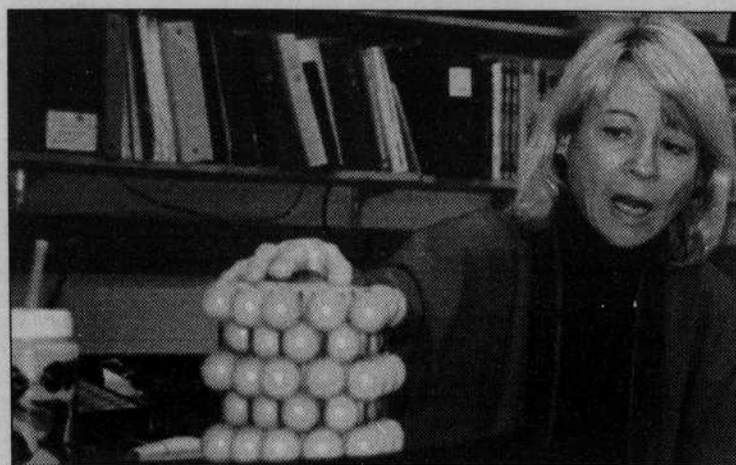
"That's why dirt works in soaps," Raymond said.

Dave Walker, a graduate student, also works in Richmond's lab. He is currently in the beginning stages of conducting a liquid interface experiment to learn how oil reacts with water surfaces.

But because he has recently joined the team, he has been doing several hours of computer simulation work to prepare.

"I'm the young one in the lab," he said.

He said the ultimate goal for the researchers is to examine and explain the microscopic effects of wa-



Katie Miller Emerald
Geraldine Richmond examines an example of a model that aided her in her research. Richmond was recently named Outstanding Scientist for 2001.

ter that normally could not be seen with the naked eye.

"We want to make that connection with what we can and can't see," he said.

Like Raymond, Walker also enjoys working with Richmond.

"She's very flexible and very open to the ideas of the students,"

he said. "She's a good mentor."

Richmond said allowing her students to think for themselves is her goal.

"Their education is to initially take my idea and explore it," she said. "Hopefully, by the time they leave, they'll be asking their own questions and teaching me, which is what you hope for."

Oregon Senate panel approves annual sessions measure

By Brad Cain
The Associated Press

SALEM — The push by lawmakers to have the Oregon Legislature meet in annual sessions, rather than every other year, advanced a step Thursday when a Senate panel supported placing the issue before Oregon voters.

Republicans and Democrats alike say Oregon's biennial system, dating back to 1858, no longer effectively serves a state that has experienced major growth and where

state government has become a \$12 billion enterprise.

However, Bill Sizemore's group, Oregon Taxpayers United, said it would oppose the move to annual sessions on grounds that it eventually could lead to having a full-time Legislature and bigger government.

With little debate, members of the Senate Rules Committee voted to send the annual sessions measure, SJR12, to the full Senate for consideration.

The measure, aimed at the May

2002 ballot, would authorize the Legislature to meet each January and limit to 150 the total number of days lawmakers could meet in a two-year period.

Supporters of the move to annual sessions said the current every-other-year system no longer functions well in an age of term limits.

Oregon's 1992 term limits law prohibits people from serving more than six years in the House or eight in the Senate.

Backers of SJR12 said the current

biennial system results in unproductive, 1 1/2-year breaks between sessions for lawmakers who now can serve only a few terms before being forced into retirement.

"I think people realize this process isn't being managed as well as it could be," said Sen. Randy Miller, R-Lake Oswego. "The interims are a waste of time and with term limits there is a lot of turnover and a loss of continuity."

Term limits aside, other law-

makers argued that budgeting two years at a time as Oregon does is inefficient and requires a lot of guesswork about how the economy will affect future revenue flowing into state coffers.

Becky Miller, assistant director of Sizemore's organization, said the anti-tax group thinks the move to annual sessions "would just mean they would be able to increase our taxes and the burdens of government on people every year, instead of every other year."

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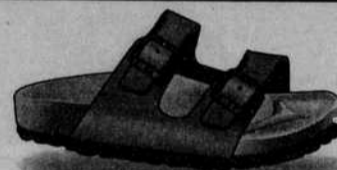
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