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## **Upton Finds Math Paradise**

Megan Wills '09

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# Upton finds math paradise

Julianne Upton '11 spent a month in math paradise last summer.

Advised by Linfield faculty to apply for the program, Upton was one of only 20 women from around the country selected to participate in the Carleton College Summer Mathematics Program for Women in Northfield, Minn. She studied complex subjects such as dynamical systems and the knot theory, but also discovered new careers that she can pursue after graduate school.

Upton said it was stimulating to work in an environment with students who shared her love of math and were enthusiastic about the material.

"It was really nice to collaborate," Upton said. "Many times during the school year, you work in groups with students who aren't math majors and you have to explain (different concepts). We didn't have to do that with each other. It was cool to have that kind of equality."

At Carleton, Upton attended classes and listened to guest speakers who outlined math research projects. Discussions of math and what the students had learned did not end with the classes or speakers. After working on group projects, the women explored how everyone had answered the problem and shared plenty of laughter and fun.

It's no surprise that Upton, who is from Corvallis, has an affinity for math. Both of her parents are engineers.

"I have always had encouragement to be on the science side of things," said Upton, a double major in math and physics. "My mom has always said I can do anything."

The professors and students that she met reinforced her decision to attend graduate school and inspired career goals as well.

"I learned so much about graduate school that I wouldn't have even thought to ask about," she said.

As a German minor, Upton hopes to study abroad in Germany

and would like to travel to the Middle East and Norway as well. She has been considering additional graduate school preparation math classes and hopes to take math courses at the Budapest Semester in Mathematics program offered through St. Olaf College.

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The Carleton program gave Upton a glimpse of the variety of career options available after graduate school. Previously, her goal was to become a math professor, but other careers have sparked her interest. She is intrigued by think tanks, made up of mathematicians working together on complex mathematical problems. For example, when the space shuttle

Columbia exploded, mathematicians were called together to calculate where the pieces of the space ship might have fallen.

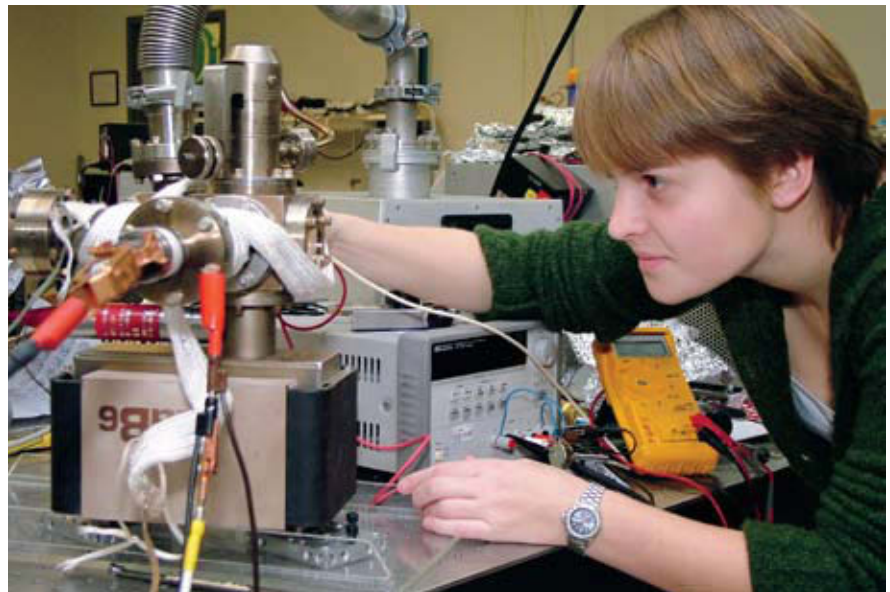
During the school year, Upton is a math and physics tutor and works at Applied Physics Technologies (APTECH) founded by Bill Mackie '71, professor of physics at Linfield. APTECH produces and develops electron emitting materials and electron sources, work that stems from the Linfield Research Institute.

Linfield's strong faculty is one of the reasons that Upton selected the college. She said her professors at Linfield encourage her in and out of the classroom.

Stephen Bricher '86, professor of mathematics, calls Upton talented and hard working, and encourages her passion for mathematics.

"I can tell that she truly loves studying mathematics," Bricher said. "She has the tools to successfully pursue an advanced degree in mathematics, and this program reinforced that perspective."

— Megan Wills '09



Julianne Upton '11 combines her interests in math and physics by working at Applied Physics Technologies. Last summer, she participated in the Carleton College Summer Mathematics Program for Women.