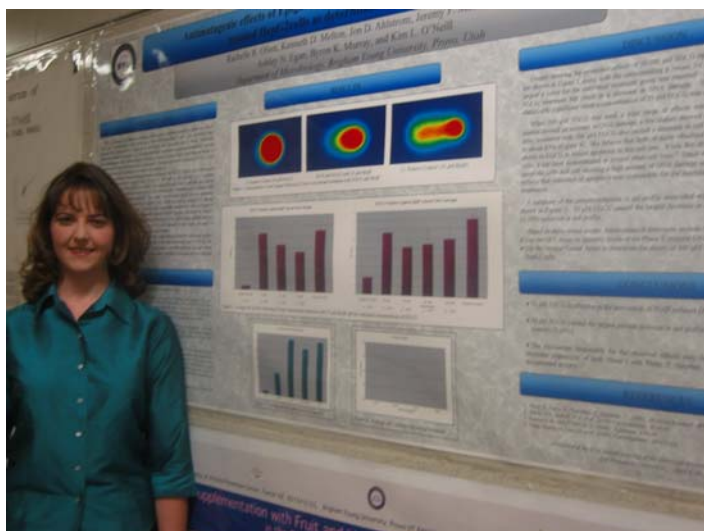


Undergraduate Studies Mechanisms Related to Causes of Cancer

When Rachelle Olsen presented her poster on cell degeneration at a national conference for cancer research she received many compliments on her work, but she also received criticism from one passerby.

“He thought my work was below the standard of what graduate students should be doing,” she says. When she informed the critic that she was a junior his attitude changed considerably. His scorn turned to praise of what she had accomplished so early in her college career.

Olsen has been studying the physiological processes of metastasis and angiogenesis and how they affect cancer patients as part of her ORCA-sponsored research project. Metastasis is the detachment and relocation of cells from a primary tumor to other parts of the body that then proliferate and form secondary tumors. Angiogenesis is the process where a primary tumor induces blood vessels around it to start servicing it, thus aiding in its growth. These mechanisms are a major cause of death in cancer victims, and Olsen wants to find out how to prevent both occurrences.



Olsen stands with one of the posters presenting her research on cell degeneration. This fall she will be interning at Harvard before going on to graduate school.

This is the second ORCA-funded project she has worked on, and she credits her year-and-a-half of research at BYU in helping her attain two internships at esteemed cancer research centers. Last year she worked at UCLA and this August she will intern for 10 months at Harvard.

“I’ve been really impressed with the way that ORCA has set up this entire system,” says Olsen. “It really helps to stimulate the graduate school environment, I think, because the whole basis for an ORCA proposal is creativity.”

As opposed to being just another student in a class full of students like her, Olsen says the mentored experience helped her get to know her professors on a more personal level. “I have loved working with Dr. (Kim) O’Neill. He is very easy to talk to. He is always

willing to work with the students, and really pays attention, and knows what they're doing," she says.

"In order to get good letters of recommendation you need to have those personal connections with the people you are working."

As a result of her efforts, Olsen has presented her work at several research conferences, and has already formed a promising network with scholars and professionals from around the country. She sees undergraduate research as key in establishing a basis for future graduate work and professional duties. "They (graduate schools) are always looking for people with prior experience," she says.

"BYU has a really unique research environment. They really encourage undergraduate students to be involved in research," she adds. In labs at other universities she noticed that there would be maybe one undergraduate researcher in the mix, while at BYU she notes up to 20 working together in the lab at times. "It is really hard to find that kind of environment at other universities," she says.