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What do humans and fish gills have in common?

Ask Jennifer Reese.

The 21-year-old junior molecular biology major at Westminster College got to see a different part of the scientific community in February when she attended what is considered the most prestigious science conference in the world. It's a place where leading scientists from all over the globe converge to discuss cutting-edge research.

And she was there to present her findings.

Jennifer was selected along with 25 other students from across the United States to attend the American Association for the Advancement of Sciences (AAAS) in Seattle and present her findings from research she did over the summer.

"It was a great experience," Jennifer said. "It was a chance to see different research from all over the world."

Jennifer worked with assistant professor of biology Dr. John Robertson at Westminster to research the detection of smooth muscle myofilaments in fish gills. The goal of the research was to identify if two proeteins, myocin and alphactin, were present in fish gills. If they are present then the cells have the ability to contract regulating blood flow.

Robertson said the research Jennifer did was an extension of research he has been working on since 1998 and it is of physiological interest.

"My idea and the reason I have been doing the study is to understand blood flow through fish gills. By understanding how these cells regulate blood flow, we can apply it to humans when looking at cardiovascular disease," Robertson said.

Jennifer's job in the research was to identify in which types of fish the proteins were present by using the western blotting technique. This technique involved transferring the protein from the cell to the cellular membrane. Then antibodies are added to see if they identify a specific protein. If the antibody binds to a protein (called a "tag") it gives off a signal which looks like a dark band. The tag is exposed to film and developed in a darkroom so the results can be seen.

Robertson said Jennifer worked out the actual technique of finding what fish had the proteins present.

At the conference Jennifer got to present her findings on a poster.

"It was very informal," she explained saying people would come up to her if they had questions.

But it was an event few science majors get to experience and one to add to her resumé.

Jennifer spent the rest of her time at the conference listening to seminars on topics from ocean conservation and vaccines to the use of ultrasound to treat cancer.

Although the grant has run out for the summer research program, Jennifer still hopes to do research over the summer. She applied for an internship at Merk Pharmeceuticals in New Jersey and for summer research at Carnegie Mellon University and Dusquane.