Kelly Hegel presents her project on bioluminescent bacteria on Wednesday.

Pittsburgh student studies glowing bacteria in Kodiak

By JULIE HERRMANN
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An email to Kelly Hegel’s adviser about a marine microbiology class in Kodiak is what brought Hegel all the way across the country from home to study bioluminescence, or glow-in-the-dark bacteria.

Hegel just graduated from Pittsburgh, Pennsylvania’s La Roche College with an undergraduate degree in biology.

She decided to come to Kodiak for this class because she loves to travel and hoped it would help her figure out what to do with her future.

“I figured marine microbiology was right up my alley,” Hegel said.

The class was part of the University of Alaska Fairbanks’ Summer Sessions, short six-week intensive classes taught during the summer. This one took place in Kodiak, an ideal place to study marine biology according to Professor Brian Himelblum at the Kodiak Seafood and Marine Science Center.

Hegel came to Kodiak and jumped in headfirst.

She’s participated in the weekly Audubon hikes, enjoyed the Crab Festival, viewed bears, and attempted to go whale watching.

She’s been to Alaska before, visiting Lake Clark National Park, and was stunned.

“I really fell in love with the experience, the atmosphere, the people, the views,” said Hegel, who grew up in Colorado but has lived in Pittsburgh for 10 years. “I used to think Colorado was one of the prettiest places ever until I came to Alaska.”

In class, Hegel studied glowing bacteria, which can be found on many different fish, shellfish and invertebrates.

At the Touch Center at

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the Alaska Fisheries Science Center, Hegel collected bacteria from the various animals and then tested the bacteria for bioluminescence.

All of the swabs were negative at the beginning, but Hegel was able to grow some bioluminescence over a few days.

The strongest was from a snail called a Vibrio tubiashii and from the water flushed out of the touch tank and back into the ocean.

Hegel did several tests in addition to tests for bioluminescence. Hegel and Himelbloom tested water in St. Herman Harbor for E. coli and fecal matter. They also created Winogradsky columns, tubes filled with sediment and water from beaches for observing changes over time in the growth of different bacteria and algae.

Himelbloom hopes that the class, Applied Marine Microbiology Laboratory, will continue in future years with a few more people. In this section, the inaugural class, Hegel was the lone student.

“One-on-one is not bad, but I’d like to see a group of students and then they could team up and come up with their own group project,” Himelbloom said.

Hegel is still not exactly sure where she’ll go with her experience.

“Environmental sustainability is a really strong passion of mine,” Hegel said. “The marine environment has also been one of my passions, so if I can combine the two, that’d be great.”

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