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Lafayette, Colorado

Barker Heads To Arctic With PolarTREC Teacher Program

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As Upper School science faculty member Melissa Barker began sharing the news of her recent acceptance into the competitive PolarTREC (Teachers and Researchers Exploring and Collaborating) program, which will take her 158 miles above the Arctic Circle to the Toolik Field Station in Alaska May 7-June 7, the perfect game of telephone started as colleagues began talking about how she was going to the North Pole.

"I'm not sure how the North Pole rumor got started, because I'll actually be 1,300 south of the Pole," she laughed. Even Barker's sister Allie, who lives off the grid in Chickaloon, Alaska just northeast of Anchorage, told Barker that she will be UP there.

Barker was recently notified that she is one of 12 teachers nationwide accepted into the PolarTREC program. She will travel to the Toolik Field Station marine biology lab and is thrilled about traveling 357 miles north of Fairbanks, 158 miles above the Arctic Circle and 111 miles south of the Prudhoe Bay and Arctic Ocean. After May 26, the sun will not set there.

Barker will be working with Dr. Tamara Harms of the University of Alaska-Fairbanks and Dr. Sarah Godsey of Idaho State. Their research will examine nutrient transport in Arctic watersheds and evaluate how climate-induced changes are affecting this nutrient transport.

"This is science in real-life! That time of year is the melt season, so I'll go from snowmobiles to snow shoes to boots to access the field sites during the dramatic weather and landscape change," she explained. "And during that change the melt water carries more nutrients.

“The more permafrost changes, so does the nutrient content in the runoff. I’ll be studying nutrient movement from land to water.”

While there she will be corresponding not only with her ninth grade biology classes through blogs and Skype, but hopefully with Middle and Lower School students and faculty as well. She will also be creating curriculum that she will integrate into her classes next year.

In the end Barker has three major goals being a part of the program. The first goal is to be a part of the process of science by being out in the field as a active member of a research team, which ties into a Dawson K-12 science department goal of helping students experience and understand how scientists actually do science. Second, she will take her access to real data into Dawson classrooms. Third is to assist teachers at varying grade levels to incorporate polar science into their curriculum.

Barker learned of the competitive program during a climate conference that featured a PolarTREC teacher.

“I had been looking for a summer research team opportunity and there are few that are as well respected as this one,” Barker explained and added that PolarTREC is funded by the National Science Foundation.

It took several weeks to complete the application that included multiple essays. At the end of November she was notified that she was one of 30 finalists from the 200-plus applicant pool. Then the process moved quickly as she interviewed with the Toolik research team. She was notified of her acceptance on Jan. 4 and she is currently gearing up for a one-week orientation and training trip to Fairbanks, Alaska in February.

But how do you orient to the sun not setting?

“Naturally your day is longer and you get less sleep. But with constant sunlight you don’t get as tired.”

Barker’s trip to Toolik will likely mark the start of an unforgettable summer for the 9-year Dawson mentor. At the end of June she is hoping to scout in Iceland for next summer’s Dawson Global Adventures summer student travel trip there.

“These two programs will fit really well together and by the fall I should have great insight into and understanding of two new environments to share with my students. I can’t wait to get my hands dirty and my feet wet!”

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