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South Pole Bound Washington-Lee teacher to conduct research in Antarctica.

[By David Schultz/The Connection](#)

KATHERINE SHIREY prefers warm climates. She's vacationed in Colombia, Costa Rica, Belize and other tropical locales. But in January 2011, this Washington-Lee High School physics teacher will be traveling to Antarctica, the coldest place on Earth, to conduct experimental research. "I'd much rather prefer to go to a warm climate but that's just not where the action is," Shirey said.

Earlier this year, she was selected to travel to the South Pole for nine weeks as a part of the Knowles Science Teaching Foundation, a group that seeks to increase the number of high quality science and math teachers in secondary education. Shirey will work on an international study on the interaction of neutrinos, subatomic particles that are created during nuclear reactions.

"It's studying something that we don't know much about," she said. "There's not many practical applications for this. This is one of those really unique, science for science's sake experiments."

Despite the esoteric nature of her research, Shirey said she is excited to bring her findings back to her 11th and 12th grade physics classrooms. "There's going to be a lot of cool stuff that kids can get involved in," she said. "I'm hoping to tie it into a lot of global climate change stuff."

AN ARLINGTON native who graduated from Yorktown High School in 1999, Shirey went to the University of Virginia for her undergraduate and graduate studies, where she received a master's degree in physics education.

"I chose not to pursue a master's [degree] in physics," she said. "I chose to become a teacher." After being selected for the Antarctic research program, Shirey went to Fairbanks, Alaska last month for some cold weather training. "Most of the time it was below zero," she said.

After an all-day plane trip, Shirey learned some cold weather survival tips and got to try on some of the extreme gear she'll be wearing in Antarctica, such as furry sweaters and air-insulated boots. Shirey has a lot of time to prepare for her trip, but she's already getting excited. "I'm really looking forward to it," she said. "This is huge. This is a once in a lifetime thing."