

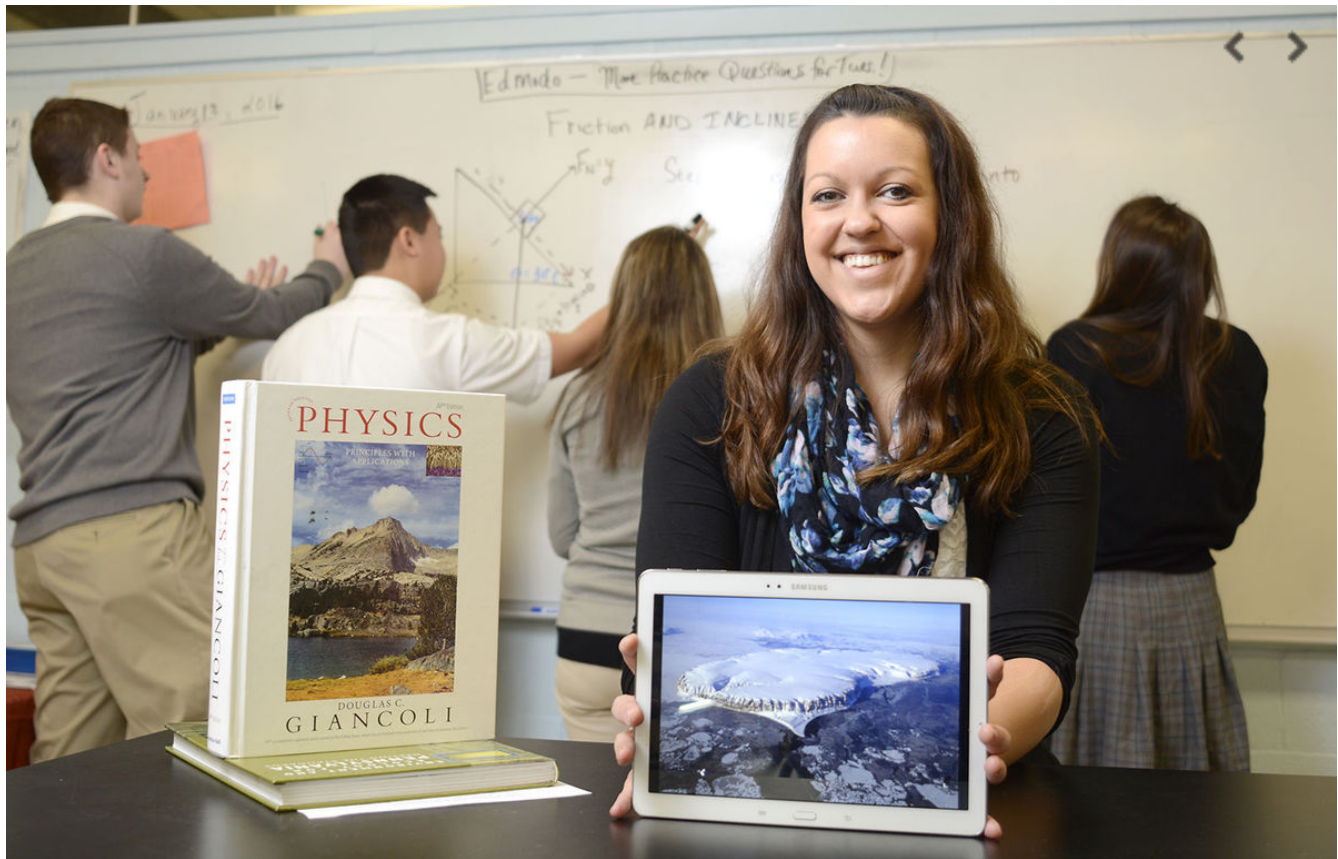
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FEATURED

# Lourdes teacher chosen for NASA research in Arctic

Eric Scicchitano Jan 15, 2016



Robert Inglis/The Daily Item

Lourdes Regional school teacher Kelly McCarthy will be part of a research project over the arctic circle in March.

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COAL TOWNSHIP — A Lourdes Regional science and math teacher will leave her school's labs to perform field research 1,500 feet above Arctic polar ice with NASA's Operation IceBridge.

Kelly McCarthy, 29, of Coal Township, is one of 15 teachers chosen to join environmental scientists in Greenland for 3½ weeks in March as part of PolarTREC (Teachers and Researchers Exploring and

Collaborating), which pairs research teams with elementary and secondary teachers.

A P-3 Orion aircraft will fly at low altitude — just higher than the tip of the Empire State Building — for eight hours daily as McCarthy and crew on board use radar, a lidar laser system and an imaging system to track climate change. The instruments are used to measure changes in density and topography of Arctic glaciers and ice sheets and collect images for a digital mapping system.

Operation IceBridge collects the data in place of a satellite that failed in 2009. The crew charts the same course the satellite would and bridges the gap until a new satellite is launched next year.

McCarthy, a Penn State graduate, was told to dress in layers and prepare for turbulence.

"You're not flying above the winds circulating so you're getting constant turbulence," McCarthy said. "Part of my role while on the plane is to adjust the instruments blown out of place."

Hundreds of teachers apply annually to PolarTREC. The chosen few learn first-hand scientific and engineering practices, which are shared in classrooms. It's meant, in part, to boost student interest in science, technology, engineering, or mathematics (STEM) careers.

McCarthy learned of PolarTREC during a summertime lab experience with NASA at the AERO Institute in Palmdale, Calif. The work of Earth scientists at the polar ice caps inspired her to apply. Personal interviews followed a lengthy written application process before she was chosen after nearly four months.

Her travel plans include a planning session in Washington, D.C., and a short deployment to Fairbanks, Alaska, before heading to Greenland. She will have an opportunity to hike a glacier, although that's not directly connected to the data-gathering mission.

"It seems so far removed. It's something that doesn't feel connected at all," McCarthy said of the Arctic region. "We teach a lot about the tropical areas; research in the Amazon is a common example. We don't really touch on research of the polar regions."

While in the field, McCarthy and scientists will chat online with students and share images and data in real time for classroom lessons. She'll also write blog posts daily about her adventure, posted to PolarTREC.com. Data will be incorporated into lessons in physics and environmental science for eighth-graders.

When she returns to Lourdes, the students and McCarthy — who also teaches trigonometry,

precalculus and calculus for eighth-graders as well as high school juniors and seniors — will keep in touch with scientists and continue online interaction. She’s arranging for a scientist to meet students for an informal lunch ahead of the polar trek.

McCarthy’s experience isn’t limited only to Lourdes students. She invites any teacher in the Valley interested in using mission data in their own classroom to contact her at [kmccarthy@lourdes.k12.pa.us](mailto:kmccarthy@lourdes.k12.pa.us).

Email comments to [escicchitano@dailyitem.com](mailto:escicchitano@dailyitem.com). Follow Scicchitano on Twitter [@ericshick11](https://twitter.com/ericshick11)

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**Eric Scicchitano**