

Puerto Rican STEM educator Armando Caussade selected as 2014 IceCube PolarTREC teacher

By Laurel Norris, 31 Mar 2014 10:00 AM

Since 2009, teachers have gained research experience at the South Pole through a partnership between WIPAC and PolarTREC, a National Science Foundation program that pairs scientists with teachers to provide field deployments to polar regions.

We are excited to announce that Armando Caussade, a STEM educator from Puerto Rico, will travel to the South Pole, Antarctica, during the 2014–2015 polar season to support maintenance work on the IceCube Neutrino Observatory. An experienced communicator inside and outside the classroom, Caussade is passionate about science and, in particular, astronomy.

“Astronomy is a very open-ended discipline that links easily to other branches of science such as physics, chemistry, geoscience and even biology,” explains Caussade, “and since many people display a natural curiosity and inclination to astronomy, it is an easy way to approach other sciences.”

Caussade is a STEM educator at G Works’ Eco-STEAM project in Juncos, Puerto Rico—a partnership with the Puerto Rico Department of Education—and an astronomy lecturer at the Pontifical Catholic University of Puerto Rico/St. John the Baptist Regional Major Seminary in San Juan. His work includes everything from designing course content to leading workshops for students, teachers, and community members.

His start as an astronomy educator was accidental. “My first astronomy presentation was given on a Saturday afternoon in early 1985, at my school's annual Open House event. The talk was not scheduled—I just happened to be at the library and they simply requested it, on the fly. The library staff knew I had been following updates on Halley's upcoming 1986 apparition,” says Caussade. By 1994, he was regularly giving lectures, publishing articles, and even appearing on TV.

In September 2013, Caussade saw an advertisement for PolarTREC teacher experiences and applied for the opportunity. Given his astronomy knowledge, he was paired with Dr. James Madsen, a physics professor at UW-River Falls and

associate director for education and outreach at UW–Madison’s Wisconsin IceCube Particle Astrophysics Center, or WIPAC.

Madsen, a longtime IceCube collaborator, helps arrange educational opportunities for high school students, teachers, and public audiences. He has collaborated with PolarTREC in the past, supporting teacher visits by Casey O’Hara in 2009, Katherine Shirey in 2010, and Liz Ratliff in 2012.

After interviewing a number of strong applicants, Caussade was selected to work with the IceCube team at the South Pole. Madsen speaks highly of Caussade, “His passion for astronomy was apparent from our first conversations. He has a wealth of experience with a wide range of audiences—high school students, college students, and the public.”

In addition to his current work in STEM education, Caussade is an advisor to and former president of the Puerto Rico Astronomy Society and was a NASA Jet Propulsion Laboratory Solar System Ambassador from 2004 to 2006.

Participating in PolarTREC and working with IceCube will help Caussade satisfy a need he sees for polar science and geoscience education in Puerto Rico. “The idea is to bring not only the facts of polar science, but also the story of my South Pole expedition—a unique, personal experience with an authentic, original voice that will be both captivating and memorable,” he says.

“Interest in STEM learning is very evident—especially in the 12- to 18-year age group—but the opportunities are limited,” he explains. “Puerto Rico is a Hispanic territory, and historically is underserved and underrepresented in STEM disciplines.”

As part of PolarTREC teacher training, Caussade will learn about various polar research projects, even traveling to Alaska where the [Arctic Research Consortium of the United States](#)(ARCUS) is located. ARCUS manages the PolarTREC program, which is funded by the National Science Foundation Division of Polar Programs.

Caussade sees the experience as a way to explore his own interests in science, improve his knowledge base, and serve as a role model to encourage Puerto Rican educators to engage in “real, meaningful research projects” and connect directly with scientists.

“There is certainly hope for science and technology education in Puerto Rico, and I humbly wish for my IceCube research experience to serve as a catalyst for change and as an inspiration to the new generation of Puerto Rican scientists,” says Caussade.

As part of the PolarTREC experience, Armando Caussade is blogging regularly on the [PolarTREC IceCube Neutrino Observatory 2014](#) expedition page. His posts are available in English and Spanish.