

# Antarctic neutrino telescope celebrates completion with conferences, public events

April 28 2011, By Jill Sakai

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Like the billions of tiny neutrinos that zip through the Earth every second, scientific exchanges will be flying thick and fast in Madison.

But unlike those elusive [neutrinos](#), which rarely interact with anything, the scientists and engineers descending next week on Madison will be interacting as much as possible — with the public, with local teachers and students, and, of course, with each other.

This week, researchers from around the world are gathering in Madison to mark the completion of the [IceCube Neutrino Observatory](#) at the South Pole.

Composed of 5,160 detectors embedded 1.5 miles deep in pristine Antarctic ice, IceCube is designed to look through the Earth to search the sky above the Northern Hemisphere for evidence of high-energy neutrinos, subatomic particles that emanate from some of the most violent events in the cosmos — exploding stars, gamma ray bursts, and cataclysmic smash ups involving black holes and neutron stars. Under construction for more than a decade, IceCube was completed in late 2010 as the last string of optical sensors was deployed in polar ice during the brief Antarctic summer.

The University of Wisconsin-Madison, the lead institution on designing, building, and now operating the massive telescope, will host an Antarctic science symposium on April 27-28 and a meeting of particle astrophysicists on April 29-30 to celebrate the detector's completion and

look ahead to the future of physics research on the southernmost continent and elsewhere. The larger IceCube collaboration, which includes researchers from Germany, Sweden, Belgium, and over 30 other countries, will also gather to discuss progress and future directions for the detector, which has been collecting data since early 2005. The meetings will be held at the Monona Terrace Community and Convention Center in Madison.

The IceCube team will also host a series of outreach events on Saturday, April 30, at the Engineering Centers Building on the UW-Madison campus. The day will include polar science workshops and demonstrations for local teachers as well as public exhibits and hands-on activities about the extreme engineering and science needed to build the world's largest neutrino detector in a harsh polar environment.

From noon until 4 p.m., the public is invited to learn about the project and try "Blue Neutrino" ice cream, a limited-edition flavor produced by UW-Madison's Babcock Dairy in honor of IceCube. The innovative flavor uses vanilla ice cream as a base, adding a blue marshmallow swirl and round chocolate flavored candies. Each ingredient reflects some aspect of the IceCube project. Located under the snow and ice at the South Pole, IceCube uses round optical modules to record the bright blue light emitted when a neutrino interacts with a particle in the ice.

The ice cream will be available at the Babcock Dairy Store and the Daily Scoop counter in the Memorial Union. On Saturday, April 30, the first 100 visitors to the IceCube photo show and portable planetarium event at the Engineering Centers Building will receive a free sample of IceCube Blue Neutrino. The event begins at 1 p.m. and will include hands-on ice drilling activities, ice melting puzzles, and photo displays from IceCube drillers and researchers. For more information about the event, [click here](#).

At 4 p.m., a video presentation about [IceCube](#) will be shown in a portable planetarium dome at Engineering Centers as part of a nationwide simultaneous "dome-casting" event. Beginning at 7 p.m., physics will get physical at "Science After Dark," a physics-themed dance party at the Majestic Theater that is open to the public.

**More information:** [icecube.wisc.edu/](http://icecube.wisc.edu/)

Provided by University of Wisconsin-Madison

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