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## Wissenschaftlicher Abendvortrag
**(in englischer Sprache)**

In Kooperation mit DESY und Humboldt-Universität zu Berlin

## Dienstag, 03. Oktober 2017, 19.00 Uhr (sic!)

Magnus-Haus Berlin, Am Kupfergraben 7, 10117 Berlin

## Prof. Dr. Francis Halzen

Wisconsin IceCube Particle Astrophysics Center
and Department of Physics University of Wisconsin-Madison

# IceCube: Building a New Window on the Universe from Antarctica

Diskussionsleitung:
Prof. Dr. Wolfgang Eberhardt, Wiss. Leiter Magnus-Haus Berlin

**Anmeldung:**
https://www.dpg-physik.de/dpg/magnus/formulare/formular_2017-10-03/anmeldung-2017-10-03.html

**Zur Person:**
Francis Halzen is a theoretical physicist studying problems at the interface of particle physics, astrophysics and cosmology. He is a pioneer in neutrino astronomy, initially working on the AMANDA experiment, a first-generation neutrino telescope at the South Pole. He argued vigorously for its successor, the much larger IceCube experiment, which he leads as its Principle Investigator. IceCube construction was completed in 2011 and two years later it made the first break-through detection of high-energy neutrinos of cosmic origin.

**Zum Inhalt des Vortrags:**
The IceCube project has transformed a cubic kilometer of natural Antarctic ice into a neutrino detector. The instrument detects more than 100,000 neutrinos per year in the GeV to PeV energy range. Among those, we have isolated a flux of high-energy neutrino of cosmic origin. I will discuss the latest measurements of the cosmic neutrino flux and their implications for its possible origin(s). From the large cosmic flux observed, we conclude that the energy density of neutrinos in the extreme Universe is similar to that of photons. It is therefore evident that the prospects for neutrino astronomy are exceptional and the case for building next-generation neutrino telescopes compelling.