

Francis Halzen

Wisconsin IceCube Particle Astrophysics Center

222 West Washington Avenue,
Madison, Wisconsin 53726
USA

Appointments at the University of Wisconsin–Madison

Hilldale and Gregory Breit Professor

Publications (selected from more than 700)

Testing QCD in the Hadroproduction of Real and Virtual Photons (with D. Scott), *Phys. Rev. Lett.* **40**, 1117 (1978)

Soft Hard Scattering in the TeV Range (with T. Gaisser), *Phys. Rev. Lett.* **54**, 1754 (1985)

High Energy Neutrino Detection in Deep Polar Ice (with J.G. Learned), *Proceedings of the 5th Int'l Symposium on Very High Energy Cosmic Ray Interactions*, Lodz, Poland (1988)

Observation of Muons Using the Polar Ice Cap as a Cerenkov Detector (with D.M. Lowder, T. Miller, R. Morse, P.B. Price and A. Westphal), *Nature* **353**, 331 (1991)

Delta r Beyond One Loop (with B. Kniehl), *Nucl. Phys. B* **353**, 567 (1991)

Particle Astrophysics with High Energy Neutrinos (with T.K. Gaisser and T. Stanev), *Physics Reports* **258**, 173 (1995)

Ultrasensitive Antarctic Ice as a Supernova Detector (with J. Jacobsen and E. Zas), *Phys. Rev. D* **53**, 7359 (1996)

Tau Neutrino Appearance with a 1000 Megaparsec Baseline (with D. Saltzberg), *Phys. Rev. Lett.* **81**, 4305 (1998)

Observation of High Energy Neutrinos with AMANDA (with the AMANDA collaboration), *Nature* **410**, 441 (2001)

An Absence of Neutrinos Associated with Cosmic Acceleration in Gamma Ray Bursts (with the IceCube Collaboration), *Nature* **484**, 351 (2012).

Search for dark matter annihilations in the Sun with the 79-string IceCube detector (with the IceCube Collaboration), Phys. Rev. Lett. **110**, 131302 (2013)

First observation of PeV-energy neutrinos with IceCube (with the IceCube Collaboration), Phys. Rev. Lett. **111**, 021103 (2013)

Evidence for high-energy extraterrestrial neutrinos at the IceCube Detector (with the IceCube Collaboration), Science **342** 6161 1242856 (2013).

Recent Honors

Foreign member of the Belgian Academy of Science KVAB

Bethe lectures, Cornell (2016)

Brinson lectures, University of Chicago (2016)

Balzan Prize (2015)

European Physical Society Prize for Particle Astrophysics and Cosmology (2015)

International Francqui Professor, VUB–ULB–UGent–UMons–UA–ULg–KULeuven, Belgium (2014).

Smithsonian American Ingenuity Award for Physical Sciences (2014)

Doctor Honoris Causa, Ghent University, Belgium (2013).

Physics World Breakthrough of the Year Award for making the first observation of cosmic neutrinos (2013)

APS Highlights of the Year (2013)

University of Wisconsin Hildale Award (2013)

Affiliated Distinguished Professor, Technische Universität München, Germany (2012)

Watkins Professor, Wichita State (2008)

International Helmholtz Award of the Alexander von Humboldt Foundation, Germany (2006)

Spitzer lectures, Princeton (2006)

Halzen mesa, Antarctica (latitude -77.39, longitude 161.44) (2005)

Doctor of Philosophy Honoris Causa, Uppsala University, Sweden (2005)

Cherwell-Symon Memorial lecture, Oxford (2000)

“Best American Science Writing 2000” for the essay “Antarctic Dreams,” published in *The Sciences*, New York Academy of Sciences (1999).

Fellow of the American Physical Society (1995)

Synergistic Activities

- IceCube Principal Investigator.
- Service on advisory committees, including those for the SNO and Telescope Array and the Auger-Upgrade experiments, the Max Planck Institutes in Heidelberg and Munich and the ICRR of the University of Tokyo, the US Particle Physics Prioritization Panel, and the ApPEC particle astrophysics advisory panel.