



IceCube and CTA postdoctoral scholar positions at the University of Wisconsin

The University of Wisconsin–Madison (UW) has an open search for postdoctoral scholars to work on multi-messenger and particle astrophysics, specifically focusing on neutrino astronomy with IceCube and gamma-ray astronomy with the Cherenkov Telescope Array. We anticipate hiring up to three positions

1. A named fellowship, the Balzan Fellowship, for neutrino data analysis and instrumentation
2. A postdoc focused on instrumentation as well as telescope commissioning and observing for CTA
3. A postdoc focused on high-energy neutrino data analysis for IceCube

The successful applicants will work within UW’s Wisconsin IceCube Particle Astrophysics Center (WIPAC). Although each position will be focused on a particular project, WIPAC is a center for multi-messenger astrophysics and there are opportunities for cross-collaboration between projects. The postdocs will work closely with WIPAC faculty (Francis Halzen, Kael Hanson, Albrecht Karle, and Justin Vandenbroucke) as well as WIPAC students and other postdocs.

The IceCube Neutrino Observatory (<http://icecube.wisc.edu>), headquartered at WIPAC, is the world’s leading neutrino telescope. It has discovered and begun to characterize the high-energy astrophysical neutrino flux and recently provided the first evidence for an identified high-energy neutrino source. Data analysis opportunities exist to improve event reconstruction techniques as well as to study IceCube data in combination with other multi-messenger datasets in the quest to understand possible sources of astrophysical neutrinos. Instrumentation opportunities exist to participate in the recently launched IceCube Upgrade project to install seven new strings, featuring innovative sensors, in IceCube.

The Cherenkov Telescope Array (<https://cta-observatory.org>) is the next-generation gamma-ray observatory. CTA is currently under construction, with multiple prototype telescopes in operation as well as recent completion of the first Large-Sized Telescope, inaugurated in October 2018. WIPAC plays a leading role in the prototype Schwarzschild-Couder Telescope (pSCT), a CTA pathfinder telescope located next to VERITAS at the Fred Lawrence Whipple Observatory (FLWO) near Tucson, Arizona. In January 2019, the pSCT was inaugurated, achieved first light, and recorded its first Cherenkov signals from particle showers. The successful applicant will work on commissioning and observations with the pSCT and also on laboratory hardware activities for a recently launched pSCT camera upgrade project. This position will include substantial travel, in particular for work on-site at FLWO.

WIPAC members play leading roles in IceCube, CTA, and the Askaryan Radio Array. We also have strong affiliate relationships with the Fermi Large Area Telescope and VERITAS. WIPAC is a vibrant institute that is a world leader in multi-messenger astrophysics and particle astrophysics, including both instrumentation and data analysis. WIPAC and the UW Physics and Astronomy departments provide a stimulating environment for scientific research, collaboration, and postdoctoral career development, with essential involvement in DES, LSST, LUX, LZ, CMS, ATLAS, DUNE, and plasma physics. WIPAC and the UW Physics department also prioritize outreach activities.

Wisconsin IceCube Particle Astrophysics Center (WIPAC)

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A PhD in physics, astronomy, or a closely related field must be completed before the position begins. Experience in multi-messenger astronomy, particle astrophysics, high-energy astrophysics, or particle physics is expected. Demonstrated excellence in computer programming and data analysis is expected of all candidates. For an instrumentation-focused position, proven skill with hardware (especially electronics), in laboratory and/or field settings, is also expected. The successful applicants will have demonstrated ability to work both independently and collaboratively and to communicate well.

Each position is for two years, with possible extension for a third year contingent on performance and funding. Review of applications will begin immediately and continue until the positions are filled. Submission by June 1 is recommended, and the start date is negotiable. WIPAC and UW are committed to increasing diversity in our field and encourage members of under-represented populations to apply (<https://diversity.wisc.edu>).

To apply, submit a CV (including a list of publications to which you have made specific contributions), statement of research interests including which project(s) you would like to be considered for, and cover letter to postdoc@wipac.wisc.edu. Please also arrange for three letters of recommendation to be sent to the same address. Inquiries can be sent to Tina Gislason (tina.gislason@wipac.wisc.edu) or any of the WIPAC faculty (francis.halzen@icecube.wisc.edu, kael.hanson@icecube.wisc.edu, albrecht.karle@icecube.wisc.edu, justin.vandenbroucke@wisc.edu).