Postdoctoral Fellow on high-energy neutrino observations with IceCube and future experiments

Job description:
The Laboratory for Extreme Multi-Messenger Astrophysics (LEMMA, https://www.queensu.ca/physics/lemma/) at Queen's University at Kingston invites applications for a postdoctoral researcher to work with Professor Nahee Park on the IceCube Neutrino Observatory and future high-energy neutrino observatories. With a cubic kilometer of active detector volume, IceCube is the world-leading high-energy neutrino observatory. The scientific goals of IceCube cover a wide range of high-energy astrophysics including cosmic ray observations, neutrino oscillations, and high-energy neutrino astrophysics. The IceCube collaboration includes over three hundred scientists from around the world and offers vibrant interactions among a diverse group of individuals with many early career scientists.

The research focus of LEMMA is to study the origin of high-energy neutrinos through neutrino and multi-messenger observations and to develop the hardware and software for the future neutrino telescopes. The successful candidate will be expected to participate in both hardware and software aspects of this endeavour. The postdoctoral researcher will be expected to work closely with local graduate and undergraduate students. LEMMA is participating in various high-energy particle astrophysics experiments including the IceCube neutrino observatory, the HELIX balloon-borne cosmic-ray experiment, and the VERITAS high-energy gamma-ray observatory, as well as detector development for future cosmic-ray and neutrino experiments. The successful candidate will participate in group discussions on multi-messenger high-energy astrophysics. LEMMA strives to build an inclusive and diverse research environment. Group members of LEMMA are invited to engage in opportunities to learn and participate in expanding equity, diversity, and inclusion in the community through educational sessions, group discussions, and outreach activities. The postdoctoral fellow will participate in the organization of the IceCube-organized outreach activities, such as the IceCube Masterclass. As part of a particle astrophysics group at Queen's University, the postdoctoral fellow will have ample opportunities to interact with other research fellows working on the underground laboratories, mainly located at SNOLAB, and subatomic hardware development.

The successful candidate will have a Ph.D. in experimental particle astrophysics, nuclear or particle physics, astrophysics, or a closely related field. Knowledge of Unix/Linux-based operating systems and the Python and/or C++ programming languages is required. Experience with particle/astroparticle physics detectors, data analysis, Monte Carlo simulations, and instrumentation/data acquisition systems is desired.

Applicants should provide a detailed C.V., a brief statement of research interests, and arrange to have at least two letters of reference forwarded to: Prof. Nahee Park, nahee.park@queensu.ca. The initial review of the applications will begin July 31st, 2024

and will continue until the position is filled. The perferred start date is late 2024. An earlier or later start date may be negotiable. Queen’s University thanks all who express an interest and advises that only those selected for an interview will be contacted.

The University invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity, and inclusion in the workplace and encourages applications from Black, racialized/visible minority and Indigenous/ Aboriginal people, women, persons with disabilities, and 2SLGBTQ+ persons.

The University has policies in place to support its employees with disabilities, including an Accommodation in the Workplace Policy and a policy on the provision of job accommodations that take into account an employee's accessibility needs due to disability. The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact Prof. Nahee Park at nahee.park@queensu.ca.