job description: ifc quantum computing post-doctorate

the air force academy foundation, institute for future conflict (ific) and the department of physics and meteorology at the united states air force academy (usafa) invite applicants with a background in quantum information science and technology (qist) to apply as a postdoctoral faculty member. the primary responsibilities of the candidate will be to conduct collaborative research and work with faculty across multiple academic departments to create, teach, and assess a new cross-disciplinary qist minor.

the selected applicant will coordinate development, implementation, and teaching of undergraduate courses for a qist minor. possible course topics include the basics of quantum information science, quantum programming and algorithms, quantum error correction, the science and engineering of qubit technologies, and future quantum information applications.

in each of the fall and spring semesters, the selected applicant will teach one or two sections of a course relevant to physics or the qist minor. financial support will be provided by the ifc through the air force academy foundation, with a target salary of $100,000. expectations for research and teaching will be communicated formally through a volunteer service agreement with the dean of the air force academy.

the individual will collaborate with faculty in research involving undergraduate students and senior-level capstone research courses. the candidate will help the department of physics and meteorology expand the scope of usafa quantum information research; current research efforts include exploring the possibility of creating silicon qubits using laser cooling and trapping and scanning tunneling microscope lithography, and attempting to use the evanescent field surrounding a tapered optical nanofiber to trap atoms.
In conjunction with these efforts, the individual will participate in cross-departmental communications, negotiations, and curriculum development between the USAFA stakeholders ultimately responsible for approving and executing the newly created academic minor, support drafting curriculum changes to prepare for review, and aid communications with stakeholders external to USAFA who could cooperate in development of the minor and provide research funds. In addition, the individual will integrate their research and service with IFC activities, such as symposia, research presentations, and programs focused on future conflict.

**Applicant Requirements:**

The candidate must be a U.S. citizen with a Doctoral Degree in Physics, Electrical Engineering, Computer Engineering, Computer Science, or a related field from a college or university accredited by the US Department of Education or internationally recognized organization. Regardless of their degree, they should have expertise in quantum information or quantum based sensors. The ideal candidate will have a demonstrated record of strong teaching, research, or practical experience in quantum information subjects such as quantum computing algorithms, error correction, hardware technologies, or quantum information applications, although other areas are welcome and will be considered on a case-by-case basis.

Essential qualities expected of every faculty member include integrity, initiative, enthusiasm, and collegiality. Applicants must have a genuine interest in teaching and curriculum development, although prior teaching experience is not strictly required. USAFA values the benefits of diversity among the faculty to include a variety of educational backgrounds and professional and life experiences. Individuals who are interested in developing future leaders of character with a desire to serve their country are especially welcome and are encouraged to apply.

Applicants should e-mail a cover letter expressing their interest, resume, CV and transcripts to Major Kody Wilson (Kody.Wilson@afacademy.af.edu), Department of Physics and Meteorology, USAFA.

**Application deadline for full consideration: June 20, 2022.**