Postdoctoral Scholar in Mathematics

College of Engineering and Physical Sciences
Department: Mathematics and Statistics

Description: The Postdoctoral Scholar will conduct research and work closely with senior faculty in the department to develop a long-range research trajectory that includes publications and a record of external funding. We seek an individual who is committed to excellence in scholarship, who can contribute to the mission of the department and benefit from vast professional opportunities open to UNH scholars at the department and the university level.

The Scholar will have the opportunity to interact with department faculty and graduate students across the breadth of the mathematical sciences represented within the department through individual collaborations and seminars as well as the opportunity to teach one course per year at the undergraduate or graduate level. The Scholar will have access to UNH professional development academies that focus on grant writing and issues related to teaching and learning.

We encourage applications from all areas of pure mathematics. We are especially interested in applicants whose research interests are aligned with those of our faculty and with the needs of our Department. The specific areas of current research are:

1. **Representation theory, including Lie theory, quantum groups, and tensor categories**. Representation theory provides a framework that unifies many branches of mathematics, theoretical physics and computer science: modern algebra, quantum mechanics, quantum computation, and quantum information are examples. The methods of representation theory are expected to play a significant role in the "Quantum Leap'' challenge which is one of the 10 big ideas promoted by the NSF.
2. **Algebraic topology, including category theory and homological algebra**. This area of research uses algebraic methods in the study of topological spaces. Many related subjects, such as homotopy theory, operads, and higher categories are at the core of modern mathematics and is a rich area of current mathematical research.
3. **Operator Theory and Operator Algebras, including C*-algebras, von Neumann algebras, free probability, and Banach space theory**. This area combines algebraic and analytic methods in the study of infinite-dimensional spaces and has recently seen applications to quantum information theory. Operator Theory has been one of the strengths of our Department for many years.