Title: Quasi-Representations of Groups and K-theory

Course Description:
This seminar will explore quasi-representations of groups, a developing area of mathematical research that has gained significant attention over the past decade. The central question in this field is determining when a quasi-representation is equivalent to a true group representation—a problem with connections to pattern recognition in computer science.

We will develop a character theory for quasi-representations using tools from K-theory. This framework enables a classification of quasi-representations and provides insight into the underlying recognition problem. The course will include discussions of numerous open problems and current research directions, making it particularly suitable for graduate students interested in group theory, operator algebras, or topology.

Average Time Dedicated Per Week: 3-5 hours outside the classroom