

Emergent Research: The PIMS Postdoctoral Fellow Seminar

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 9:30 AM Pacific / 10:30 AM Mountain / 11:30 AM Central
 Zoom



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 Fusion rings and their categorifications

Abstract: Fusion rings are a special class of associative unital rings with nonnegative integer structure constants and a notion of duality. For example, the group ring of a finite group is a fusion ring. We study fusion rings mainly because they arise as Grothendieck rings of categories associated to Hopf algebras, semisimple Lie algebras, vertex operator algebras, etc. In turn, these categories have application to topological quantum field theory, invariants of knots and links, and quantum computation, to name a few. In this talk we will discuss the brief history of the classification of categorifiable fusion rings and how number-theoretic properties of fusion rings dictate the existence of, or properties of, their categorifications.

Speaker Biography: Andrew Schopieray is a PIMS PDF (2020) working with Terry Gannon at the University of Alberta. He obtained his Ph.D. from the University of Oregon (Eugene, United States) in 2017 under the supervision of Victor Ostrik. He previously held postdoctoral positions at the University of New South Wales (Sydney, Australia) and the Mathematical Sciences Research Institute (Berkeley, United States). His research is in the study of tensor categories and draws inspiration from representation theory, category theory, number theory, and mathematical physics.

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