Department of Mathematics, BGU

AGNT

On *Wednesday, January ,14 2026*

At *14:10 – 15:10*

In *201*

Hollis Williams (Okinawa)

will talk about

Nonabelian Surface Holonomy from Multiplicative Integration (online meeting)

Abstract: Surface holonomy and the Wess–Zumino phase are fundamental in string theory and Chern–Simons theory, but giving a fully analytic description of their nonabelian versions has been a longstanding challenge. In this talk, I will explain how Yekutieli's theory of nonabelian multiplicative integration on surfaces provides such a framework. The starting point is a smooth 2-connection (α,β) on a Lie crossed module. I will describe how one constructs multiplicative integrals associated to this data, and then show that these integrals satisfy the axioms of a transport 2-functor in the sense of Schreiber and Waldorf, providing an explicit model of nonabelian surface holonomy. I will conclude by discussing the resulting three-dimensional Stokes theorem and its relation to the Wess–Zumino phase, including the abelian case as a special instance.