The two-boundary braid group and its amazing quotients.

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007 Kemeny Hall, 4:00 pm
(Tea 3:30 pm 300 Kemeny Hall)

Abstract

Around the turn of the 20th century, there was a wonderful breakthrough in studying infinite groups and their group-algebras: Schur-Weyl duality began as a transfer of information from the symmetric group to the general linear group via commuting actions on a very natural vector space. Since then, there has been an explosion of developments in tensor power centralizer algebras: algebras rising in duality with more familiar groups and algebras. Examples include the Brauer algebras, braid groups and quotients thereof, and tangle algebras. Sometimes we are so lucky as to discover that objects of outside interest also arise in duality with familiar algebras.

We'll take a brief tour of algebras arising as tensor power centralizer algebras, all of which will be generated by diagrams (like permutation diagrams, braids, tangles, etc.). Then we'll see how an algebra previously arising out of studies of reflection groups, a priori unrelated to centralizer algebras, is in fact a centralizer algebra itself.

This talk should be accessible to graduate students