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Representation and Number Theory Seminar

An Introduction to Topological Kashiwara-Vergne Theory *by*

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Abstract:

The Baker-Campbell-Hausdorff Theorem gives a formula for $\log(e^x e^y)$ where x and y don't commute. A solution to the Kashiwara-Vergne equations is a refinement of this, and the existence of such solutions has wide implications in harmonic analysis and Lie theory: in particular, it implies Duflo's Theorem. The symmetry groups of the set of Kashiwara-Vergne solutions, called the Kashiwara-Vergne groups, are closely related to the Grothendieck-Teichmüller groups. I will describe a topological (knot theoretic) approach to Kashiwara-Vergne theory, including a topological characterisation of the Kashiwara-Vergne groups, implications, related approaches, and open questions.

This talk is based on joint work with Marcy Robertson and Iva Halacheva, and earlier work with Dror Bar-Natan.

Date : 18 October, 2022 (Tuesday)

Time : 9:00am-10:00am (Hong Kong SAR)

Zoom link :

<https://cuhk.zoom.us/j/97838822137?pwd=ZTVvSC9abmNjR3RCcS9FTzJNTVhXdz09>

Meeting ID: 978 3882 2137

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All are Welcome