

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Differential equations and motives

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Date: Tuesday, December 17, 2024

Time: 11:30am – 12:30pm

Venue: Rm 210, Run Run Shaw Bldg., HKU

Abstract

Given a (possibly non-linear) differential equation, when does it have an algebraic solution? I will discuss several rather elementary problems related to this question, and their solutions which require some inputs from algebraic geometry and (complex and p-adic) Hodge theory. Along the way, we will meet classical topics such as character varieties of surface groups, the Painlevé VI and Schlesinger equations. This is based on joint works with Litt and Landesman – Litt.

All are welcome