THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

Differential equations and motives

by

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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 Hodge theory. Along the way, we will meet classical topics such as character varieties of surface groups, and the Painlevé VI equation. This is based on joint works with Litt and Landesman—Litt.

> **Date** : 16 December 2024 (Monday)
> **Time** : 4:00pm – 5:00pm
> **Venue** : Room 5566 (Lift 27/28)

All are Welcome!