THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

MINI COURSE

Hypergeometric functions, Galois representations, and modular forms

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Abstract

Historically, the hypergeometric functions were studied through the lens of differential equations. When the parameters are rational numbers, Katz introduced Galois representations and developed a theory parallel to that in the classical setting. These Katz representations can be realized on cohomological groups of algebraic varieties, and hence they are expected to be automorphic according to Langlands' philosophy.

In our lectures, we will showcase the interconnections among hypergeometric functions, Galois representations, and modular forms by exploring the analytic and algebraic aspects of hypergeometric functions.

Lecture 1:	June 13 2024 (Thursday)	10:30 – 12:00noon
Lecture 2:	June 20, 2024 (Thursday)	10:30 – 12:00noon
Lecture 3:	July 4, 2024 (Thursday)	10:30 – 12:00noon

Room 210, Run Run Shaw Bldg., HKU

All are welcome