



Department of Mathematics
The Chinese University of Hong Kong

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數學系
香港中文大學

Phone: (852) 3943 7988-9 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk
Rm. 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Representation and Number Theory Seminar

Unipotent Representations of Complex Reductive Groups

by

Dr. Lucas Mason-Brown
Oxford University

Abstract:

Unipotent representations are a mysterious class of representations of a reductive group over the real or complex numbers, which are conjectured to form the “building blocks” of the unitary dual. In 1985, Barbasch and Vogan defined a class of representations of a complex reductive group called “special unipotent representations”. These representations have proven to be fundamental objects in the study of unitary representations, but they constitute only a fraction of all unipotent representations (for example, the metaplectic representations are excluded). In this talk, I will propose a more general definition of “unipotent”, inspired by the Orbit Method. I will catalog the properties of our unipotent representations (including their classification) and describe an intriguing relationship between our representations and those of Barbasch-Vogan, which is related to symplectic duality. This talk is based on joint work with Ivan Losev and Dmitry Matvieievskiy.

Date: 3 November 2023 (Friday)
Time: 10:00 a.m. – 11:00 a.m.
Venue: Room 501a, Academic Building No.1, (AB1)
The Chinese University of Hong Kong, Shatin

All are Welcome