THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

Number Theory Seminar

Quadratic forms and field invariants

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Abstract

There are classical invariants for quadratic forms like the discriminant and the Clifford invariant which take values in mod 2 Galois cohomology. We explain the conjecture of Milnor which is a theorem of Voevodsky, giving successive higher invariants in Galois cohomology for quadratic forms which completely determine the forms once the dimension is fixed. There is an invariant of fields associated to quadratic forms, the u-invariant which measues the size of anisotropic quadratic forms. We relate the study of this invariant to Milnor invariants and look at some open questions on the u-invariant of function fields of curves over totally imaginary number fields.

The period-index questions for the unramified Brauer groups of the function fields arise in a natural way in this study.

Date:	June 19, 2023 (Monday)
Time:	3:00 – 4:30pm
Venue:	Room 210, Run Run Shaw Bldg., HKU

All are welcome