SEMINAR

SCHOOL OF MATHEMATICS AND STATISTICS

DATE: 20 DECEMBER 2018

TITLE

The Braid Group and the Burau Representation

VENUE | TIME

Seminar Room I
03:30 P.M.– 04:30 P.M.

SPEAKER

Prof. T.N. Venkataramana
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ABSTRACT

The fundamental group of the space of monic polynomials with distinct roots of degree n is the braid group on n letters. Eo each such polynomaal f, and to each integer d at least two, there corresponds a cyclic d-fold ramified covering of the projective line and the braid group operates on the first cohomology of the cyclic covering (via a specialisation of the "Burau representation"). We show that if n exceeds d, the image of the braid group action is an arithmetic group. We also discuss tthe Deligne-Mostow theory which explains how the arithmeticity can fail in some cases, if the degree n is smaller than d.