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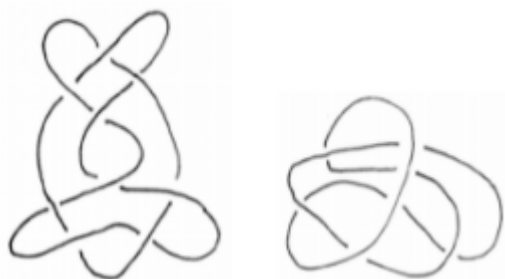
# COLLOQUIUM

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## Application of algebra to Knot Theory

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**10:30 am**

Abstract



Knot theory studies embeddings of simple closed curves in a three-dimensional real space. These curves (knots and links) are analysed using diagrams, that is, projections on the plane that involve double points. Two link diagrams represent the same link if and only if one can be obtained from the other by a finite sequence of Reidemeister moves of type I, II and III, and planar isotopy. One of the main goals of knot theory is to find strong and at the same time computable link invariants.

A well-known approach to this problem is to use assignments of elements of some binary algebraic structures to the arcs of a given link diagram (colorings). In this way one obtains the axioms for racks and quandles. Similarly, one can color the regions of the complement of the diagram using a ternary algebraic structure (a knot-theoretic ternary quasigroup). In this talk we describe various properties and applications of a

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