

COLLOQUIUM

Anabelian geometry and obstructions to solving equations

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Abstract: Grothendieck's anabelian conjectures say that hyperbolic curves over certain fields should be $K(\pi, 1)$'s in algebraic geometry. It follows that conjecturally the solutions to equations defining such a curve are the sections of étale π_1 of the structure map. These conjectures are analogous to equivalences between fixed points and homotopy fixed points of Galois actions on related topological spaces. This talk will start with an introduction to the étale fundamental group, Grothendieck's anabelian conjectures, and their topological analogues, and then present a 2 nilpotent real section conjecture.

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MATHEMATICS AND COMPUTER SCIENCE
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