Colloquium

UNIVERSITY of WISCONSIN
UWMILWAUKEE
Department of Mathematical Sciences

Dr. Alex Furman

Professor of Mathematics

University of Illinois-Chicago

Friday, November 5th, 2021 @ 2:00pm

Online via. Microsoft Teams

Dr. Alex Furman

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Hyperbolic manifolds: recent updates on the interplay between geometry and number theory

Hyperbolic manifolds, i.e. Riemannian manifolds of constant sectional curvature -1, are important objects of study in Geometry, Dynamics, Number theory etc. We have a fairly good grasp on these objects in dimensions 2 and 3, but our understanding seems to decrease in higher dimensions.

In the talk I will discuss some ways of constructing hyperbolic manifolds, relation to Number Theory, and Margulis' arithmeticity criterion, and will conclude with the recent proof by Bader-Fisher-Miller-Stover of a conjecture of McMullen and Reid that hyperbolic manifolds with infinitely many totally geodesic submanifolds of maximal dimension are arithmetic.

Link to online event: https://bit.ly/3m65sBt

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