MATHEMATICS COLLOQUIUM

Applications of number theory to coding theory

Jim Brown

Occidental College

Monday, October 8th, 2018
4:10 p.m.
Neill Hall 5W

Refreshments served at 3:30 p.m.
Neill Hall 216 (Hacker Lounge)

Whenever information is transmitted over a noisy channel, inevitably some of the information is lost or distorted. It is vital to be able to recover the lost or distorted data from the data that is received. For instance, if coding theory was not used then your Netflix movies would constantly crash and freeze up. One can use algebraic geometry and number theory to construct codes. In this talk I will introduce the very basics of coding theory and then talk about how algebraic number theory, algebraic geometry, and modular forms come into play when studying coding theory. I will conclude with some undergraduate research I supervised along with Felice Manganiello this past summer.

DEPARTMENT OF MATHEMATICS & STATISTICS
WASHINGTON STATE UNIVERSITY
PULLMAN