Student Research Talks (StReeTs)

George Mason University

tt-Geometry and Chromatic Primes

Quincy Frias
George Mason University

Abstract

Abstract: Given a commutative and unital ring, its prime spectrum is a ringed space built off of the set of its prime ideals. Algebraic Geometry studies how the geometry of the spectrum depends on the algebraic characteristics of the ring, and more generally studies spaces and functors that are built up out of prime spectra.

On the other side of the mathematical world, stable homotopy theory leads one to study a category that behaves like a ring but has the internal structure of something like a derived category of modules. In this setting we can define a spectrum analogously to that of a ring, and do something like algebraic geometry with a view towards algebraic topology! In particular, there is a comparison map from the spectrum of the famous stable homotopy category to the prime spectrum of the integers, and we will talk about the "chromatic" primes that appear in the fibers over prime numbers.

Date: Friday, March $24th$
Time: 2:30pm–3:20pm
Place: Exploratory Hall 4106 and Zoom (Meeting ID: 978 7872 4201)

Pizza will be served at the presentation.

For further information or for special accommodations (including dietary restrictions), please contact Michael Merkle or Aleyah Dawkins via email at `mmerkle@gmu.edu or adawkin@gmu.edu` by Thursday.