



RUMA

Rutgers Undergraduate Mathematics Association

presents...

HOLOMORPHIC NULLSTELLENSATZ

A Lecture by Colin Fan

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ABSTRACT:

Hilbert proved his Nullstellensatz (German for “theorem of zeros”) in 1893, establishing a duality (1-1 correspondence) between geometry and algebra in the setting of polynomials. In particular, the Nullstellensatz allows us to use algebra (easier) to study geometry (harder).

Being more ambitious, we can ask whether or not we can establish a duality between geometry and algebra in the setting of holomorphic functions. This question is intrinsically interesting, and is further motivated by the need to study complex manifolds. Thankfully, Rückert, in 1931 established his analytic Nullstellensatz, being the first one to introduce algebraic tools to complex analytic geometry.

In this talk, I hope to keep the prerequisites at a minimum with little to no proofs and highlight the beauty of both the Hilbert and the Rückert Nullstellensatz, as well as the difficulties one may face in the study of holomorphic functions of several variables.

WEDNESDAY
APRIL 20, 2022
HILL 525 AT 7 PM

**Pizza and refreshments will be served*

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