CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, May 12
2:00 – 3:00 PM
Maria Sanford, Room 101

CANTOR'S DIAGONAL ARGUMENT AND HILBERT'S TENTH PROBLEM

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(Honors student thesis presentation)

CENTRAL CONNECTICUT STATE UNIVERSITY

ABSTRACT

We will discuss both the history and philosophical implications of Georg Cantor's diagonal argument that the real numbers are uncountable. We will show how this idea ran counter to the prevailing concepts of infinity at the time and consequently marks a revolutionary change in mathematics. To exemplify the strength of Cantor's diagonal argument we will show how it was used in the solution of Hilbert's Tenth Problem, a question in number theory which is beyond the original intended scope of Cantor's diagonal argument.

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