CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, March 2
3:00 – 4:00 PM
Maria Sanford, Room 101

MARTINGALES:
FOR FUN AND (*NON*)PROFIT

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Abstract: The term "martingale" dates back to 18-century France and referred to a class of betting strategies. The most well-known of these strategies is where a gambler aims to make a dollar, and doubles his previous bet after each loss in order recoup the losses. In the mid-twentieth century, mathematicians Lévy, Doob, and others developed the theory of a special class of stochastic processes which came to be called martingales. Today, martingales are used in a wide variety of fields, including finance, queueing theory, and even in epidemic models.

In the first part of this talk we will provide the background necessary to define a martingale. In particular, we will introduce the features of a probability space, including sigma algebras, probability measures, and filtrations. In the second part of the talk, we will look at several examples of martingales and explore some applications from finance. In particular, we will visit the original martingale betting strategy, and the famous Gambler's ruin problem.

For further information:

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