

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM

Friday, February 20

3:00 – 4:00 PM

Maria Sanford, Room 101

**A BEGINNER'S INTRODUCTION
TO CATEGORY THEORY**

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Abstract: In the 1920s, developments in set theory established a unifying ontological language for mathematics: Essentially every mathematical object can be defined in terms of sets. Category theory – developed in the 1940's by Samuel Eilenberg and Saunders MacLane – establishes a unifying structural language for mathematics. If mathematics can be broadly construed as the study of patterns, then category theory is the abstract theory of patterns, a study of the fundamental ur-patterns out of which the disparate specialized branches of mathematics are built. A construction in category theory yields a construction in every discipline to which it can be specialized, and seemingly unrelated constructions in analysis, topology, algebra, and arithmetic can thus be recognized as special cases of a deeper pattern.

In this talk, we will introduce the fundamental ideas of category theory and attempt to communicate the basic flavor of the subject through examples. No prerequisite knowledge is required, but some examples will be drawn from linear algebra, abstract algebra, and real analysis.

To join us online use the following link: <https://ccsu.webex.com/meet/gotchev>

For further information: gotchevi@ccsu.edu; 860-832-2839; <http://mathcolloquium.sites.ccsu.edu/>