CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES
COLLOQUIUM

Friday, March 24
3:00 – 4:00 PM
Maria Sanford, Room 101

A PRIMER ON SQUIGONOMETRY

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Abstract: Generalization and abstraction have always been part of the fiber of mathematics. To take something we have known to be true for a long time, a canonical equation, for example, and disassemble it, thoroughly examine it, and then reassemble it with some different parts is often the key to discovering structure. Doing this can often act as a gateway to a new mathematical world. This talk is an introduction to generalizations of concepts that students learn early in their mathematical careers about the definitions of distance, the unit circle, and the sine and cosine functions. We will see how a seemingly cosmetic change of the exponent in the equation for the unit circle has wide-reaching ripple effects, turning a circle into a squircle, and eventually enveloping the hyperbolic, exponential, and logarithmic functions. We will also see that squigonometry is a field ripe for exploration by undergraduates.

Bio: Robert Poodiack is professor and chair of mathematics at Norwich University, the nation's oldest private military college. Rob earned his bachelor's degree from Cornell University in 1988, his master's degree from Western Connecticut State University in 1994, and his doctorate from the University of Vermont in 1999, when he was hired at Norwich. Rob is a long-time member of the Northeastern Section (NES/MAA). His book, *Squigonometry: The Study of Imperfect Circles* (written with Bill Wood of the University of Northern Iowa) was published by Springer this past December.

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