CCSU

DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, March 7
3:00 – 4:00 PM
Maria Sanford, Room 101

AMS EXPECTS THAT EVERY MATHEMATICIAN WILL DO THEIR ODES: FROM THE BATTLE OF TRAFALGAR TO CALCULUS (OR NELSON TO NEWTON)

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Abstract: Differential equations successfully model numerous theoretical and real-world problems, with examples often drawn from physics and, especially in the covid era, mathematical biology. We discuss a beautiful problem in a very different area that can be done easily in a first calculus class: modeling the famous Battle of Trafalgar, where Nelson's strategy led to one of, if not the, most decisive and lopsided naval victories ever. This example illustrates the power of creating good mathematical models that capture enough of the key features and having techniques to solve the resulting differential equations. We'll discuss how to create a model, test for reasonableness, deal with issues that arise, and when possible, solve explicitly.

Pre-requisites: Calculus I

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/