



MATHEMATICS

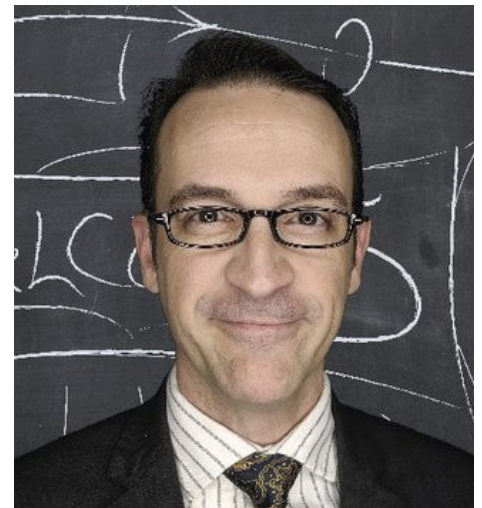
12th Annual Pi Mu Epsilon Lecture

A NEW LOOK AT AN OLD CALCULUS

Robert Ghrist

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Calculus has been around for centuries and has a long tradition of applications spanning the modern history of science. However, the current age is characterized by a sweeping array of new potential applications – to machine learning, AI, robotics, neuroscience, genetics, and much more. In addition, both our curricula and our default modes of instruction (chalk, paper, 4-color texts) are not keeping pace with innovation. This talk will be an argument for updating both the content and the mode of visualization of calculus. There will be lots of pictures, new applications, and even a little bit of the mathematics that lies beyond calculus.



Friday, Oct. 19

4 p.m. - 5 p.m., 115 Avery Hall

**Reception: 3:30 p.m. - 4 p.m.
348 Avery Hall**

Robert Ghrist is the Andrea Mitchell Penn University Professor in Mathematics and Electrical/Systems Engineering at the University of Pennsylvania. Professor Ghrist is known for his work on topological methods in applied mathematics, specifically for applying topology to data analysis and to the study of sensor networks. He has authored a number of textbooks for undergraduate students including *Calculus Blue*, a comic-book style multivariable calculus text.

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