

## The World of Mathematics and Statistics

SWARTHMORE COLLEGE • DEPARTMENT OF MATHEMATICS AND STATISTICS • COLLOQUIUM SERIES 2018–2019

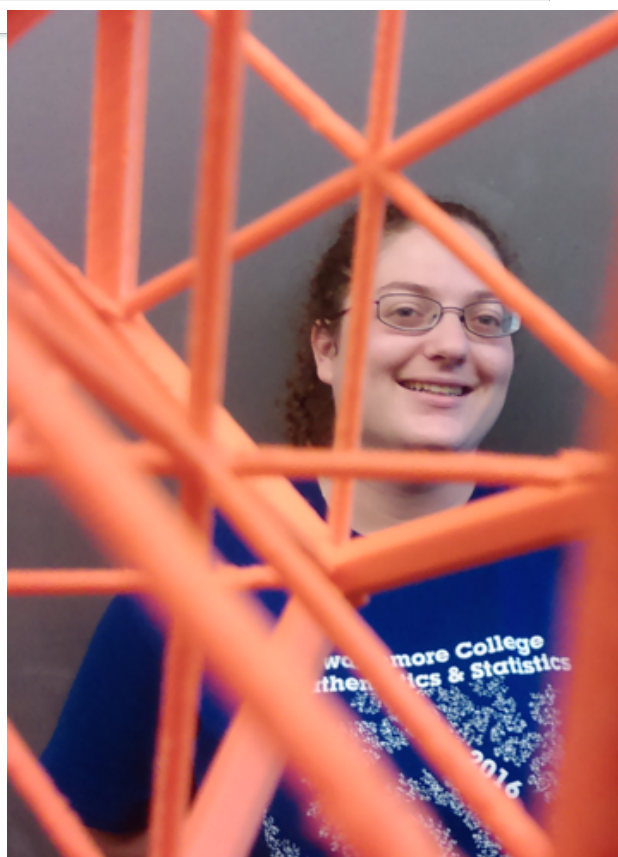
# Math/Stat Colloquium

## Splines: a story of Animation and Algebra

How do animators make sure that complicated surfaces appear smooth on screen? How do you program a 3D printer to get the sleek curves on your model of your favorite car? And what do these questions have to do with algebra?

The surface of your model car or your favorite Pixar character's face is made up of a collection of polynomials that fit together smoothly called a spline. These splines are models, but they are also algebraic objects that can be added and multiplied. Some splines contain deep information about the structure of groups and algebraic varieties.

This talk will introduce you to splines and their traditional uses, and show you how a concept that started centuries ago with shipbuilders has become a powerful algebraic tool.



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Tuesday, October 2, 2018  
SC 199, Refreshments 4:15pm, Lecture 4:30pm