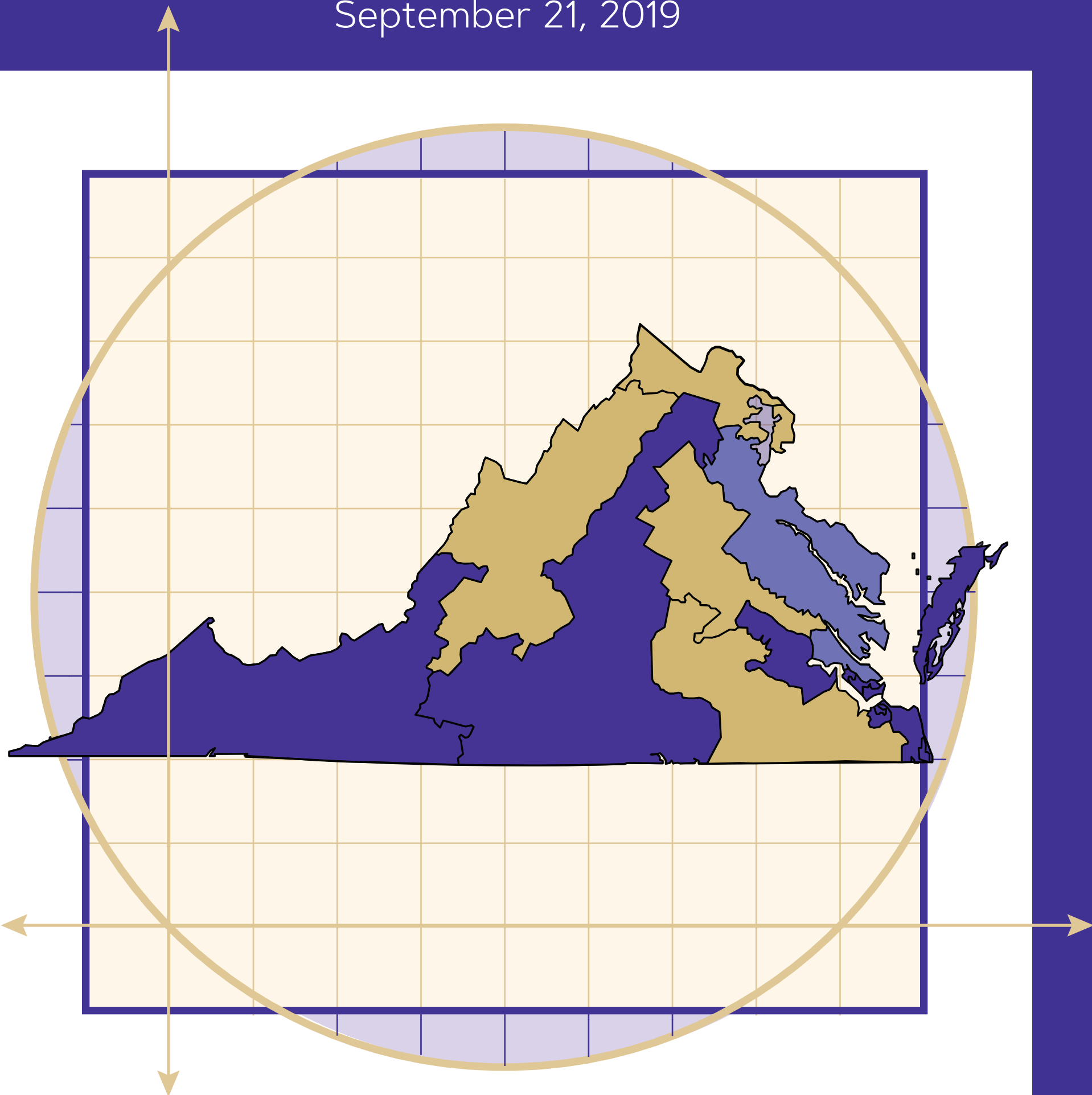


JAMES MADISON UNIVERSITY

# Shenandoah Undergraduate Mathematics and Statistics Conference

September 21, 2019



## OPENING SPEAKER:

Karen Saxe, American  
Mathematical Society



### *GERRYMANDERING AND A REDISTRICTING OUTLOOK FOR 2020*

Every ten years each state redraws its congressional district maps. Many map-makers are accused of partisan gerrymandering, and these challenges have been gaining traction in our courts, including in the Supreme Court. This talk will give background on how redistricting is done by the states, an update on how mathematics and statistics is being called on by the courts in their deliberations, and what changes to look for when the states start drawing in 2020.

## CLOSING SPEAKER:

David Richeson,  
Dickinson College



### *TALES OF IMPOSSIBILITY*

"Nothing is impossible!" It is comforting to believe this greeting card sentiment; it is the American dream. Yet there are impossible things, and it is possible to prove that they are so. In this talk we will look at some of the most famous impossibility theorems—the so-called "problems of antiquity." The ancient Greek geometers and future generations of mathematicians tried and failed to square circles, trisect angles, double cubes, and construct regular polygons using only a compass and straightedge. It took two thousand years to prove conclusively that all four of these are mathematically impossible.



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BY SEPTEMBER 7, 2019