1145-D1-1994   **John Nicholson*** (`nicholsonja@apsu.edu`). *Curve stitching as a two-dimensional density plot.*
In curve stitching, a combination of lines or a single two-dimensional shape, e.g. a circle or hexagon, are drawn with evenly placed points located along the lines or around the shape's perimeter. Line segments connect pairs of points leading to the emergence of additional curves and patterns. Examples include a parabola emerging from two lines at right angles, and a cardioid emerging from a circle. Normally, the number of points and segments is kept low, allowing both the line segments and the emergent patterns to be seen in the final result. In this talk, I demonstrate how the basic curve stitching process can be extended in two ways. First, the number of line segments is increased to large values of N, stochastically choosing which line segments to draw, resulting in a final image that is similar to a two-dimensional density plot. Secondly, a computational approach allows for a wider variety of curves and combinations of curves. This approach leads to aesthetically pleasing patterns that are not regularly seen in the traditional curve stitching methods. (Received September 24, 2018)