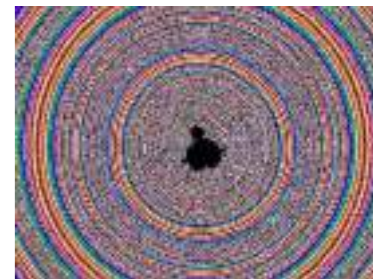


Michigan Math Club



Meeting [virtually](#) for the remainder of the Winter 2020 term, Thursdays at 4pm EDT

From \mathbb{C} to Shining Sea: Complex Dynamics from Combinatorics to Coastlines

Steven J. Miller
Williams College



30 April 2020

Complex dynamics is the study of iterating complex functions. From very simple, basic rules, incredibly complicated and highly structured behavior emerges, frequently surfacing in wildly different settings at many different scales. We'll introduce some of the general theory and explore these connections, starting with binomial coefficients and progressing to the fractal dimension of coastlines, Newton's method and briefly commenting on chaos in weather prediction. The goal is to emphasize how the same ideas and techniques can be fruitfully applied again and again; the only background needed is high school algebra.

