

1135-R1-2472 **Beth Schaubroeck***, beth.schaubroeck@usafa.edu, and **Julie Barnes**. *From Julia Sets to Coloring Pages*.

Iteration of functions and the associated pictures of Julia sets are often included in an undergraduate complex variables course. In this talk, instead of examining the Julia sets of complex functions, we discuss how we might visualize the third or fourth or fifth iterate of a function. We do this by looking at the level contours of the real part of the iterate. This generates surprisingly beautiful images, reminiscent of pictures found in coloring books for adults. Even more wonderful is the interesting mathematics hidden in the images. This collection of intricate complex function designs led to an MAA-published coloring book, which we hope will inspire students to explore the beauty of complex variables. (Received September 26, 2017)