1154-K1-1300 **Douglas McKenna***, doug@mathemaesthetics.com. *The Art of New Generalized Hilbert Curves: Pinwheel, Mandala, Meta-Hilbert, and Tendril-Based Half-Domino Curves.*

Hilbert-style space-filling curves, based on an $n \times n$ recursive subdivision of a square, continuously fill that square, corner to adjacent corner, yielding a linear border. Using a perturbation technique based on these square-filling, order-n generalizations, we can generalize further to create infinite sequences of eye-catching pinwheel or mandala curves that are tiles whose borders' fractal dimension can, in theory, be made arbitrarily close to 2.0. After confronting several interesting combinatorial constraints that arise, we show a new meta-Hilbert construction: an infinite sequence of rotationally symmetric pinwheel curves whose borders converge to a set of fourteen Hilbert Curves. We then show how the Hilbert Curve generalizations that fill a unit square are actually degenerate cases of "half-domino" curves, which fill exactly half a 1×2 domino. Their self-negative borders are self-similar, infinitely detailed, yet almost-everywhere linear (i.e., non-fractal). Many are visually beautiful and some are reminiscent of indigenous folk art designs. These new results will be presented visually and interactively using the speaker's recently published, combined app/eBook *Hilbert Curves: Outside-In and Inside Gone*. (Received September 14, 2019)