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Title: Fractals in complex dynamics

Abstract: Complex dynamics concerns the behaviour of points in the complex plane when we apply the iterates of a function such as a polynomial or an exponential. The Julia set of a function consists of the set of points for which nearby points have very different behaviours when we apply the iterates of that function - we say that the points are unstable or chaotic under iteration. Most Julia sets have a very intricate structure which looks similar at every level of detail - such a set is known as a fractal. In this talk we will look at examples of such sets and discuss their geometrical properties including some which are apparently paradoxical.