1135-F1-1831 **Chamberlain Fong*** (chamberlain@alum.berkeley.edu), San Francisco, CA 94110. *Squircular Calculations.*

The Fernandez-Guasti squircle is a plane algebraic curve that is an intermediate shape between the circle and the square. It has characteristics that are very similar to the more famous Lamé curve. However, unlike the Lamé curve which has unbounded polynomial exponents, the Fernandez-Guasti squircle is a low degree quartic curve. This makes it more amenable to algebraic manipulation and simplification. For instance, we have used this curve to formulate invertible mappings between the circular disc and the square.

In this paper, we shall motivate the use of the squircle for artistic purposes. For example, it can be used to convert M.C. Escher's circle limit lithographs into squares. Also, it can be used to stylize rectangular paintings into oval regions. Another artistic use involves the visualization of 3D surfaces derived from the squircle. See https://squircular.blogspot.com for sample results. (Received September 26, 2017)