



# Doubling Minimal Surfaces

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Until the discovery of Costa's surface in 1982, the lexicon of complete embedded minimal surfaces with finite topology in euclidean three space was rather small, consisting of the flat plane, the helicoid, and the catenoid. Since then, examples have flourished rapidly with the addition of the Costa Hoffman Meeks surfaces and countless others. Several methods have been developed for finding complete minimal surfaces, embedded or otherwise, the more flexible of these being the singular perturbation techniques initiated by Nicos Kapouleas. I will present the basic ideas in my recent work with Kapouleas and Niels martin Moller in finding complete embedded minimal surfaces with these methods.

## Biography

Stephen Kleene was born and raised in Rochester, New York. He attended the University of Rochester, graduating in 2005. He completed his Ph.D in 2010 at The Johns Hopkins University under the supervision of William P. Minicozzi II. He is currently a C.L.E. Moore Instructor at M.I.T. His research interests are primarily Geometric Analysis and Differential Geometry, specifically minimal surfaces and mean curvature flow.