

*Student
Seminar*

Pi Mu Epsilon

& GAMECOCK MATH CLUB

Menger Sponge Build

by Francisco Blanco-Silva
USC Instructor



Doug Meade, Francisco Blanco-Silva, and Ronda Sanders

Abstract: The purpose of origami is to create shapes and figures by folding paper, without the use of any tools, glue, tape, etc. In this talk we discuss the role of mathematics in origami to accomplish approximations to fractal objects like the Menger sponge. The focus of this talk is then twofold: We briefly explore fractals, their occurrence in nature, and the mathematical tools we need to study and replicate them. We show some interesting geometric problems in an origami setting, and how to use these skills to build a structurally sound Menger sponge with business cards.

The university is attempting to build a Level 3 Menger Sponge using 48,000 donated business cards. This event will be the first of several as we work to achieve this goal. We will be taking advantage of our annual USC High School Math Contest on January 31st, 2015, where we will recruit the help of PME/GMC members and all high school students, instructors, and relatives in attendance. We plan to build that day as many level 2 sponges as we can afford. At a later date, we mean to organize a larger group of volunteers, so we can assemble the final level 3 sponge. For more information visit <http://blancosilva.github.io/post/2014/11/05/Menger-Sponges.html>

Thursday 22nd January 2015
LC 121 @ 6:00 pm

For more info visit PME/GMC on FaceBook and at <http://people.math.sc.edu/pme/>