

# The SUMO Speaker Series for Undergraduates

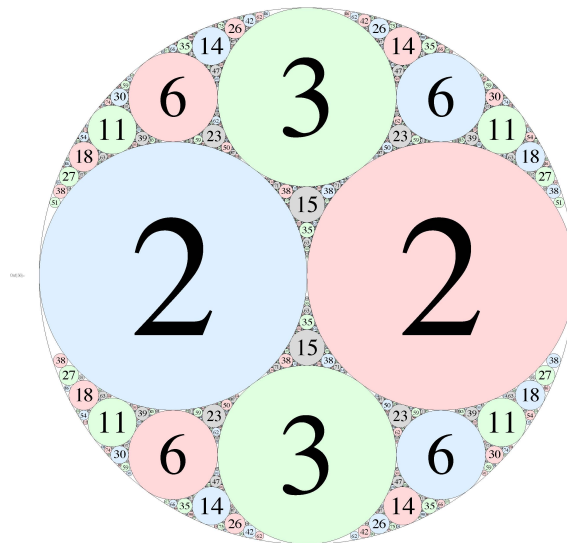
*(Pizza Provided)*

Wednesday, October 19<sup>th</sup>

**4:15-5:05, room 380C**

## Guessing Games in Integer Apollonian Circle Packings

Professor Elena Fuchs (Berkeley)



### ABSTRACT:

Apollonian circle packings are packings of infinitely many circles originally cooked up by Apollonius of Perga around 200BC. Beautiful on their own (there will be nice pictures!), these packings become even more beautiful when one thinks a little about the radii of the circles which come up in a given packing. It can happen that all the radii in a packing are in fact reciprocals of integers. In this talk we'll focus on a rather hard question that is easy to state. Given the radii of four of the circles in a packing, can one quickly "guess" what radii will appear in the rest of the packing?

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