

# ON EATING CAKE AND KEEPING FRIENDS

---

Undergraduate Math Club  
CORNELL UNIVERSITY

## SPEAKER

Zoe Wellner

## ABSTRACT

Eating a non-uniform cake as friends can be difficult. Two people might want a single cherry, or someone might prefer to have no chocolate chips. Is it possible to cut up the cake in such a way that everyone is pleased? Cake eating is one example of a fair division problem. In this talk we will begin by describing different types of fair division and an in depth look at problems of subjective preferences. We will then discuss a topological proof of the existence of a fair division which results in interesting extensions of well known theorems such as Sperner's lemma, Brouwer's fixed point theorem, and the KKM theorem.



## SEP 26 at 4:45pm

Malott 532 ★ Refreshments