

MANY CHEERFUL FACTS

presents

But how Big is it REALLY? - a discussion of dimension and measure

a talk by Tegan Cheslak-Postava

12:10 - 1:00pm on Wednesday, October 18th, in room 1015.

In 1911, Brouwer proved that there is no continuous one-to-one correspondence between Euclidean spaces of different dimensions. Two years later he introduced a topologically invariant definition of dimension. Many other definitions of dimension have since been proposed.

More recently, with the recognition of the usefulness of sets which had been considered 'pathological,' dimensions - such as Hausdorff dimension - which may take non-integer value have come to the forefront.

I will present a number of ways to define dimension, explain some relationships among them, and address how well they fit an intuitive notion of what dimension should be. I will also mention some applications.

*I am the very model of a modern Major General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the fights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse!*

- Gilbert & Sullivan $P \circ P$