國立中山大學應用數學系
學術演講

講　者：Dr. Dan Guyer (University of Washington)

講　題：How to Build a Topological Space

時　間：2026/05/13（Wednesday）11:10 ~ 12:00

地　點：理 SC4009-0 教室

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https://sites.google.com/site/chihweichenmathematician/international-scholar-online-lectures?

Abstract

Suppose you want to build a d-dimensional sphere. From a geometric point of view, one can generate a convex region from a set of points to obtain a (d+1)-dimensional polytope; its boundary will be d-dimensional sphere. We will discuss this construction and why it is innately tied to linear algebra. From a topological perspective, one can start with d-dimensional building blocks" that we call d-simplices, before gluing them all together to form a sphere (or many other spaces!). Both of these methods often give us many constructions of our desired space. Once one has a construction of a topological space, the next significant combinatorial question is how few vertices does one need to build it?". The answer for d-spheres can be seen quickly (can you take a guess?), and so we will discuss this question for triangulations of d-dimensional real projective space. In doing so, I will highlight recent work with Stefan Steinerberger and Yirong Yang where we found a new, conjecturally minimal, triangulation of 5-dimensional real projective space coming from the boundary of a simplicial 6-polytope.

敬 請 公 告！ 歡 迎 參 加！

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