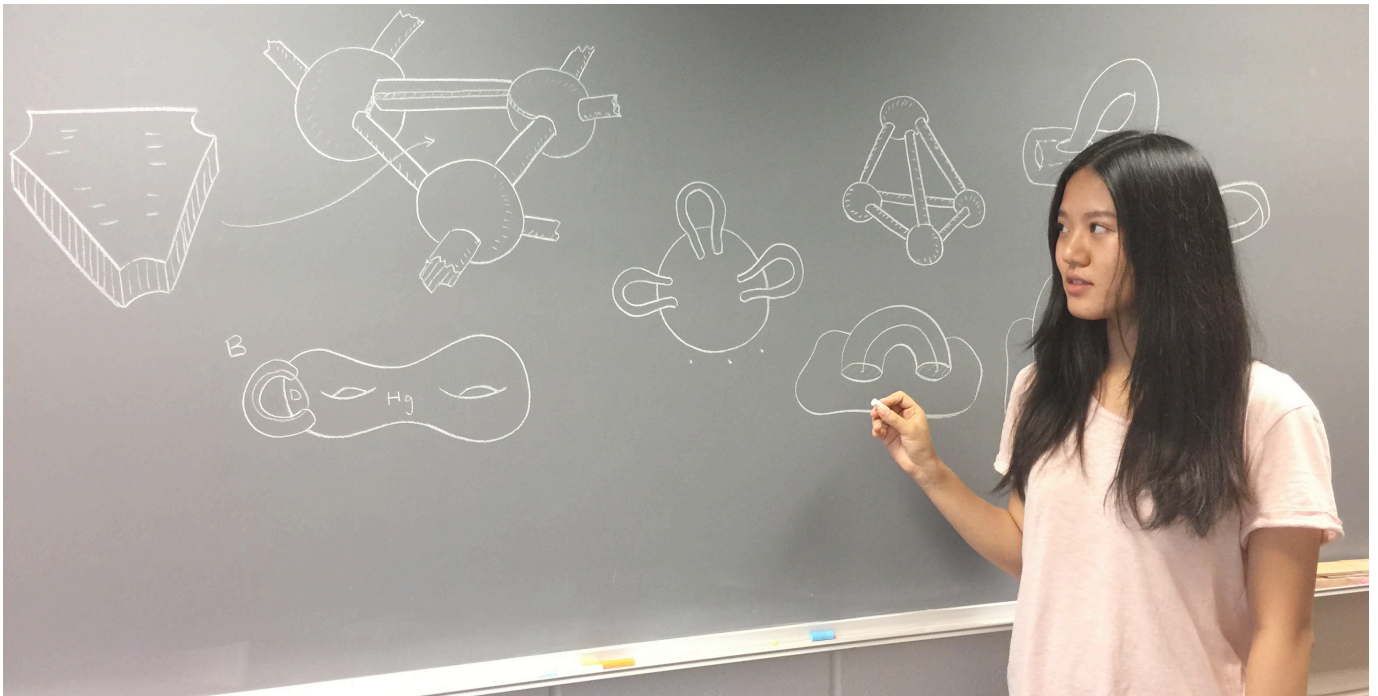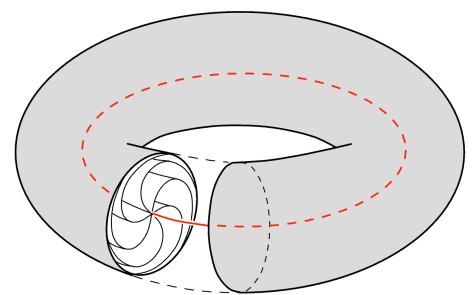# The MATHEMATICS Honors Lecture Series

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Low-Dimensional Manifolds and Open Book Decompositions

Open book decompositions provide a nice way to study a manifold by breaking it down to a lower dimensional manifold. It is especially helpful in studying closed 3-manifolds as each has open book decomposition on a special page. This further leads to the study of 4-manifolds bounded by these 3-manifolds. Thus, open book decompositions can shed lights on certain aspects of the classification problem of closed 4-manifolds, which was proven an undecidable problem.

In this talk, we will give an overview of manifolds and open book decompositions. Then we aim to find all the 3-pheres open books from the special page, and the closed 4-manifolds that arise from them.

Wednesday, May 3, 2017
Reception, 4:00 p.m. ~ King 203
Lecture, 4:30 p.m. ~ King 239