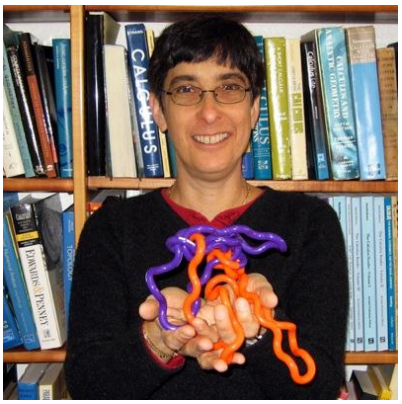
Department of Mathematics

Fall 2016 Colloquium Series



Intrinsic Properties of Graphs Embedded in $\mathbb{R}^3$

Erica Flapan, Pomona College

Thursday, December 1, 2016

Behavioral and Social Sciences Building Room 166, 4 pm

A natural extension of knot theory is the study of embeddings of graphs in $\mathbb{R}^3$. However, in contrast with knots, the structure of a graph can be complex, and this can affect all of its embeddings. If every embedding of a graph has a particular property, then we say that property is *intrinsic* to the graph. For example, a graph is said to be intrinsically knotted if every embedding of the graph in $\mathbb{R}^3$ contains a knot. In this talk I will introduce intrinsic knotting and other intrinsic properties of graphs, and present some open problems in the area.

Erica Flapan joined the faculty at Pomona College in 1986. Since 2006, she has been the Lingurn H. Burkhead Professor of Mathematics at Pomona College. In addition to teaching at Pomona College, Flapan taught at the Summer Mathematics Program for freshmen and sophomore women at Carleton College from 2000 until 2015. In 2011, Flapan won the MAA's Haimo award for distinguished college or university teaching of mathematics. In 2012, she was selected as an inaugural fellow of the American Mathematical Society. She is currently a Polya Lecturer for the MAA. Flapan has published extensively in topology and its applications to chemistry and molecular biology. In addition to her research papers, she has published an article in the College Mathematics Journal titled "*How to be a good teacher is an undecidable problem*," as well as been an author or coauthor of four books: `*When Topology Meets Chemistry*" ``*Applications of Knot Theory*," ``*Number Theory: A Lively Introduction with Proofs, Applications, and Stories*", and "*Knots, Molecules, and the Universe: An Introduction to Topology*", which is intended for first and second year college students.

For a complete abstract, go to http://www.humboldt.edu/math/news-and-events/math-colloquium

We cordially invite you to the Pre-Colloquium Tea on the third floor of the BSS building at 3:30 pm on Thursday.