



# Special Colloquium

UCR  
Mathematics  
Department

**DR. FARAMARZ VAFAEE**  
**CAL TECH**

## "FLOER HOMOLOGY AND DEHN SURGERY"

The past thirty years have witnessed the birth of a beautiful array of approaches to the field of low dimensional topology, drawing on diverse tools from algebra, analysis, and combinatorics. One particular tool that has made a dramatic impact on the field is the Heegaard Floer theory of Ozsvath and Szabo. Defined 16 years ago, this theory has produced an encompassing package of invariants, which have significantly impacted the study of many areas of low dimensional topology, including Dehn surgery. In this talk, we will focus on two questions: a) which 3-manifolds do arise by Dehn surgery along a knot in the 3-sphere? b) what are all ways to obtain a fixed 3-manifold by Dehn surgery along a knot in the 3-sphere?

900 University Avenue  
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**Wednesday, January 24th, 2018**

**Surge 284**

**Tea Time @ 4:00**

**Talk Begins @ 4:10 p.m.**

**Ends @ 5:00 p.m.**

