

ISU Algebra Seminar



Title: Arrangements of subvarieties

Speaker: Christin Bibby (Louisiana State U)

Time: 1:00 pm - 1:50 pm on Thursday (10/08/20)

Zoom Meeting ID: 949 9970 1234, Passcode: AlgSeminar

Abstract: A hyperplane arrangement is a finite set of hyperplanes in a vector space. The way in which these hyperplanes intersect has a rich combinatorial structure (known as a matroid). A topologist may be more interested in the complement of their union. A motivating example is an ordered configuration space of distinct complex numbers, which is the complement to an arrangement whose underlying combinatorial structure is the lattice of set partitions. In this talk, we will explore some classical questions in the field of hyperplane arrangements, and what changes when more general algebraic varieties play the role of the vector spaces. That is, we consider arrangements of smooth codimension-one subvarieties in a smooth algebraic variety, which intersect like hyperplanes, and examine the interplay between combinatorics, topology, and algebra.

About Speaker: Professor Bibby completed her Ph.D. in mathematics at the [University of Oregon](#) in Eugene under the supervision of [Nick Proudfoot](#), after which she was a postdoc at [Western University](#) in London (Canada) working with [Graham Denham](#), and then a postdoc at the [University of Michigan](#) in Ann Arbor, where her mentor was [John Stembridge](#). Professor Bibby is currently a tenure-track assistant professor at [Louisiana State University](#).

Professor Bibby's research interests lie at the intersection of combinatorics, algebraic geometry, and topology. In particular, her interests include hyperplane arrangements; arrangements of subvarieties (eg. toric and elliptic arrangements); configuration spaces; matroids and geometric (semi)lattices; representation stability.

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