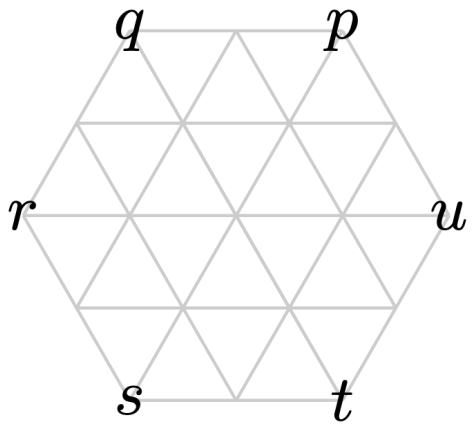
VCU Discrete Mathematics Seminar

Root puzzles and plumbed 3-manifolds

Prof Allison Moore
(VCU)

Wednesday, Mar. 26
1:00-1:50 EDT

In person! in 4145 Harris Hall. And on Zoom:
`https://vcu.zoom.us/j/92975799914`
`password=graphs2357`



A plumbed manifold is a type of topological space that is defined by gluing together disk bundles. The goal of this talk is to construct infinite families of invariants of such plumbed 3-manifolds.

Each invariant takes the form of an infinite series and is produced from a variety of combinatorial ingredients: (1) trees with both vertex and edge weights, (2) a root system and its Weyl group, (3) formal "admissible" series, and (4) spin-c structures. Ingredient #3 can also be interpreted as the solution to a strictly combinatorial puzzle defined on the root system. We'll also discuss how these families of invariants generalize the "Z-hat" series defined by Gukov-Pei-Putrov-Vafa, Gukov-Manolescu, Park and Ri.

This is joint work with N. Tarasca.

For the DM seminar schedule, see:

`https://go.vcu.edu/discrete`