Word-Representable Graphs: Orientations, Posets, and Bounds

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While word-representable graphs were introduced to study questions in algebra, there has been continued interest in the topic for their own combinatorial properties. A graph G is said to be word-representable if there exists a string, w, consisting of the characters $v_1, \ldots, v_n$ for $v_i \in V(G)$ where $v_i v_j \in E(G)$ if and only if v_i and v_j alternate in w. The representation number of a word-representable graph is the smallest k such that w is k-uniform (each vertex appears exactly k times in w). In this talk we will explore the representation number of Hasse diagrams.

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