Rings & Wings

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Title: Ideal Lattices of Leavitt Path Algebras

Abstract: When investigating rings, it is typical to examine the structure of their ideals, which form a modular algebraic lattice. The ideal lattices of Leavitt path algebras have additional properties, such as being distributive, and have a complete description in graph-theoretic terms. In this talk, we will discuss how the broad class of lattices that are superalgebraic and distributive can be represented as ideal lattices of Leavitt path algebras. Conversely, using a series of graph alterations, we derive a characterization of graphs whose Leavitt path algebras have superalgebraic ideal lattices. The talk should be accessible to most, regardless of their background in Leavitt path algebras, graphs, and lattices.