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**Ruth Davidson\*** (redavids@ncsu.edu) and **Patricia Hersh**. *Using EL-shellability to characterize finite semimodular and geometric lattices.*

An edge labeling of a Hasse diagram is often used to show that the order complex of a finite poset is shellable, a method pioneered by Björner and Wachs. We characterize finite semimodular and geometric lattices as finite lattices admitting certain families of edge labelings. These results fit into a similar paradigm as Peter McNamara's 2003 characterization of supersolvable lattices as those finite lattices admitting lexicographic shellings induced by  $S_n$ -EL-labelings. This is joint work with Patricia Hersh. (Received August 24, 2012)