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Lara Ismert* (lara.ismert@huskers.unl.edu). *Connections between commutators, derivations, and the Heisenberg Commutation Relation.*

In this talk, we consider a weakly-defined derivation on $B(H)$ that is implemented by commutation with an unbounded self-adjoint operator. We show that this derivation has a surprising property, called *kernel stabilization*. Consequently, a certain class of derivations on C^* -algebras, originally studied in a 1975 article by Bratteli and Robinson, also have kernel stabilization. As another interesting corollary, we provide what we believe are new sufficient conditions for when two self-adjoint operators satisfying the Heisenberg Commutation Relation must both be unbounded. (Received September 16, 2018)