1078-03-133   **John T. Baldwin***, Department of MSCS M/C 249 UIC, UIC 851 S. Morgan, Chicago, IL 60607.
Forcing to get model theoretic results in ZFC.

The absoluteness of basic properties of first order logic was a cornerstone of late 20th century model theory. Recent analysis of similar problems for infinitary logic places the focus on the issue of whether $\aleph_1$-categoricity forces amalgamation and ω-stability in $\aleph_0$. We will consider several uses of set theoretic forcing to establish results in model theory that are provable in ZFC. This includes work with Larson extending Keisler's proofs that for certain infinitary logics the existence of uncountably many types over the empty set implies the existence of the maximal number of models in $\aleph_1$ and work with Shelah showing that a strong failure of exchange for a natural notion of algebraicity implies the existence of the maximal number of models in $\aleph_1$. (Received December 01, 2011)