

Title: Pseudotrees, Suslin Trees, and Cardinal Functions

A *tree* is a partially ordered set $(T, \leq)$ such that for every $t \in T$, the set $T \downarrow t = \{r \in T : r \leq t\}$ is well-ordered. A *pseudo-tree* is a generalization of a tree: a partially ordered set $(T, \leq)$ such that the sets $T \downarrow t = \{r \in T : r \leq t\}$ are only required to be linearly ordered. Trees and pseudotrees are both a source of interesting examples and a useful tool in set theory and Boolean algebra, and they can have some surprising features. For example, consistently there exist Suslin trees – uncountable trees having no uncountable branch and no uncountable antichain. In this talk we will provide connections between the “allowable” structure, or shape, of pseudotrees and the existence of Suslin trees via a Boolean-algebraic cardinal function.