Simple-like independence relations in abstract elementary classes

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Simple theories were discovered by Shelah in the mid seventies, they form a well-behaved subclass of the class of unstable first-order theories. In this series of talks, we will introduce and study analogues of simplicity in the context of abstract elementary classes with a monster model. We will study *-simple, simple and supersimple independence relations. We will show that their existence imply the failure of the tree property. This is achieved by finding cardinal bounds to classes of small Galois-types over a fixed model that are inconsistent for large subsets. The lectures are based on the following paper "Simple-like independence relations in abstract elementary classes"which is joint work with Rami Grossberg.