

**Speaker:** Zbigniew Król

**Title:** On some forms of logical connections between theories

**Abstract:** Many mathematical theories and structures are interconnected. The phenomena of duality, coupling, interpretability of theories in Tarski's sense etc. have been known and studied for many years; cf. the construction of dual categories, adjoint functors etc. I intend to discuss a new type of connection between theories associated with the construction of sentences independent of a given consistent theory, which I call alter-theories. The usual definition of a sentence independent of a given consistent theory, as a sentence whose negation can be consistently attached to the remaining axioms of that theory, does not decide the question of whether this negation is also a sentence independent of the remaining axioms, since we usually know only that the theory with the attached negation is also consistent. Is it possible to construct consistent theories with axioms that are negations of the (non-logical) axioms of a given consistent theory? How are such theories related?