It is proved in [P. Růžička, J. Tůma and F. Wehrung, *Distributive congruence lattices of congruence-permutable algebras*, Journal of Algebra 311 (2007), 96–116] that every distributive algebraic lattice with the set of compact elements of cardinality at most $\aleph_1$ is isomorphic to the lattice of normal subgroups of some group (note that the lattice of normal subgroups of a group $G$ is the congruence lattice of $G$ considered as a semigroup). We are interested in congruence lattices of semigroups which are far in a sense from groups. For an integer $n$, a semigroup is called a nil-semigroup of index $n$ if it has a zero and satisfies the identity $x^n = 0$. Our talk is devoted to representing lattices by congruence lattices of such semigroups.

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