

## Associative algebra varieties satisfying semigroup identities

Olga Finogenova

We consider associative algebras over a field or algebras over  $\mathbb{Z}$ , i.e. rings. With any algebra  $\langle A, +, \cdot \rangle$ , two semigroups are associated in a natural way. The first one is just the multiplicative semigroup  $\langle A, \cdot \rangle$  of the algebra. The second one is a so-called *adjoint* semigroup  $\langle A, \circ \rangle$ , where the multiplication  $\circ$  is defined by letting  $a \circ b = a + b - a \cdot b$  for all  $a, b \in A$ .

In this talk we discuss varieties consisting of algebras whose multiplicative semigroups satisfy nontrivial identities or of algebras whose adjoint semigroups satisfy such identities. We characterize these varieties in terms of forbidden algebras and discuss some corollaries of the characterizations.