1056-17-718   **Marina Tvalavadze*** (`marina@math.usask.ca`), University of Saskatchewan, Department of Mathematics and Statistics, Saskatoon, SK S7N5E6, Canada. *Enveloping algebras of Malcev algebras.*

By definition, a Malcev algebra is a vector space M over a field with a bilinear product $[a, b]$ satisfying anticommutativity and the Malcev identity:

$$[J(a, b, c), a] = J(a, b, [a, c])$$

where $J(\cdot, \cdot, \cdot)$ is the Jacobian. In 2004, Perez-Izquierdo and Shestakov constructed the universal non-associative enveloping algebra $U(M)$ for a Malcev algebra M. Although this enveloping algebra is not generally alternative, it has a PBW-basis and shares many properties of a universal enveloping algebra of a Lie algebra. This resulted in an extensive studying of enveloping algebras of Malcev algebras of various types. For 4-dimensional solvable Malcev algebra and 5-dimensional nilpotent Malcev algebra the structural constants of their enveloping algebras have been found by M. Bremner, I. Hentzel, A. Peresi, H. Usefi. According to Kuzmin's classification, there are also 5-dimensional non-solvable Malcev algebra and 5-dimensional solvable Malcev algebras of five different types. It is a work in progress to determine the structural constants of 5-dimensional non-solvable Malcev algebra. In this talk we will look into the case of 5-dimensional solvable Malcev algebras, discuss the properties of their enveloping algebras. (Received September 16, 2009)