NICOLÁS ANDRUSKIEWITSCH, Universidad Nacional de Córdoba, Argentina
Finite-dimensional Lie algebras arising from Nichols algebras of diagonal type

Let B be a finite-dimensional Nichols algebra of diagonal type over an algebraically closed field of characteristic 0. The distinguished pre-Nichols algebra of B, introduced and studied in [4], has several nice properties including finite GK-dimension and action of the Weyl groupoid. Its graded dual, called the Lusztig algebra of B, was subsequently introduced and studied in [1]. We will outline these constructions. Then we will present the Lusztig algebra as an extension (as braided Hopf algebras) of B by the universal enveloping algebra of a graded nilpotent Lie algebra, that is the positive part of a semisimple Lie algebra, that is determined in all cases.

References: [1] N. Andruskiewitsch, I. Angiono and F. Rossi Bertone. The divided powers algebra of a finite-dimensional Nichols algebra of diagonal type. Math. Res. Lett., to appear.

[2] N. Andruskiewitsch, I. Angiono and F. Rossi Bertone. A finite-dimensional Lie algebra arising from a Nichols algebra of diagonal type (rank 2). Bull. Belg. Math. Soc. Simon Stevin 24 (1) (2017), 15-34.

[3] N. Andruskiewitsch, I. Angiono and F. Rossi Bertone. Lie algebras arising from Nichols algebras of diagonal type.

[4] I. Angiono. Distinguished Pre-Nichols algebras. Transf. Groups 21 (2016), 1-33.