

# ON RIGIDITY OF NICHOLS ALGEBRAS

**Mikhail Kochetov**

Memorial University of Newfoundland, Canada

mikhail@mun.ca

Nichols algebras have become one of the main objects in the theory of Hopf algebras. In particular, Nichols algebras of diagonal type play a central role in the classification program for pointed Hopf algebras, which are obtained by the two-step process of bosonization and graded deformation (so called “lifting”) from these Nichols algebras.

It turns out that if the first step of this process is omitted then there may well be no graded deformations. More precisely, certain wide classes of graded braided bialgebras, including finite-dimensional Nichols algebras of diagonal type, positive parts of quantum groups, and finite-dimensional symmetric algebras of braided vector spaces whose braiding comes from the (co)action of a finite-dimensional (co)triangular Hopf algebra, do not admit nontrivial graded deformations.

*Joint work with Iván Angiono (Universidad Nacional de Córdoba, Argentina) and Mitja Mastnak (Saint Mary's University, Canada).*