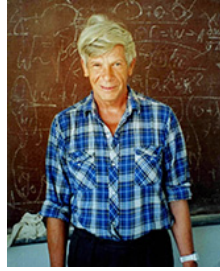


VII International Conference “Models in Quantum Field Theory”  
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## Representations of quantum groups and applications

*Friday, 14 October 2022 10:00 (45 minutes)*

Since their invention over 30 years ago, quantum groups and their representations have been playing an important role in mathematical physics. To each semisimple Lie algebra  $\mathfrak{g}$  and a root of unity  $q$ , one can associate the Lusztig's “divided powers” quantum group at a root of unity. The category of its finite dimensional representations over complex numbers is non-semisimple and has a remarkable tensor subcategory, which leads in particular to the definition of the fusion category. It also changes the standard result about the multiplicity of a given finite dimensional representation in a tensor power of a standard representation. I will review some recent results in this area and discuss applications.

**Presenter:** LACHOWSKA, Anna

**Session Classification:** Plenary Session