

ISU Algebra Seminar



Title: Quasifinite representations of the Lie algebra of the matrix quantum pseudodifferential operators

Speaker: Karina Batistelli (Universidad de Chile)

Time: 1:00 pm - 1:50 pm on Thursday (09/24/20)

Zoom Meeting ID: 950 7528 5428, Passcode: AlgSeminar

Abstract: The classification of highest weight modules of Lie subalgebras is strongly used in the study of finite growth modules over conformal algebras. However, the main difficulty in the study of the representation theory of infinite dimensional algebras such as Lie algebras, Virasoro algebras and conformal algebras is the fact that the grading subspaces are infinite dimensional, despite the existence of a natural principal gradation and a triangular decomposition. In this context, quasifinite representations (i.e, those for which its graded subspaces are finite dimensional) play an important role.

In this talk, we will discuss the irreducible quasifinite highest weight modules of some subalgebras of the Lie algebra of matrix quantum pseudodifferential operators $N \times N$.

About Speaker: Dr. Batistelli is currently a postdoc at the Department of Mathematics of Facultad de Ciencias (Universidad de Chile). She received her PhD. on March 2017 at [FaMAF & CIEM \(CONICET\)](#) in Córdoba, Argentina, under the supervision of Carina Boyallian. Also with Boyallian, Dr. Batistelli completed in 2019 a CONICET postdoc.

Dr. Batistelli's research interests orbit around representation theory and (higher) category theory and include the representations of Lie (super)algebras, vertex algebras, tensor categories, enriched categories and Soergel bimodules.

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