Abstract

This talk presents a unified framework for δ-type algebras, established by generalizing classical derivations into δ-derivations defined by the identity

$$D(x \cdot y) = \delta(D(x) \cdot y + x \cdot D(y)).$$

We introduce δ-Novikov algebras and their Poisson counterparts, demonstrating that the commutator of a δ-Novikov-Poisson algebra leads to a transposed (δ + 1)-Poisson algebra. New definitions for 2025 are provided for δ-Gelfand-Dorfman algebras, alongside classification results for low-dimensional cases. While semisimple Lie algebras yield trivial results, we show that non-trivial transposed Poisson structures exist for the Witt algebra and all solvable or nilpotent finite-dimensional Lie algebras.