

”The Trans-Carpathian Seminar on Geometry & Physics”

(See also the [Geometry & Physics @ DFT](#) seminar homepage)

Date: Wednesday, June 19th, 2024, 15:15 Bucharest time

Location: online via Zoom ([Join Zoom Meeting](#))

Speaker: **Prof. Cornelia Vizman** (West University of Timisoara)

Title: **Universal extensions of Lie algebras of Hamiltonian/divergence free vector fields.**

Abstract: This talk is based on joint work with Bas Janssens (Delft University of Technology) and Leonid Ryvkin (University Claude Bernard, Lyon 1) and it is about two conjectures by Claude Roger in [2]. I will shortly recall our older work [1], where we prove the conjecture about the universal central extension of the Lie algebra of Hamiltonian vector fields. Then I will focus on the universal central extension of the Lie algebra of exact divergence free vector fields. To prove this second conjecture, one needs to make a detour in the realm of Leibniz algebras.

References:

- [1] B. Janssens, C. Vizman, Universal central extension of the Lie algebra of Hamiltonian vector fields, *IMRN*, 2016.16(2016) 4996-5047.
- [2] C. Roger, Extensions centrales d’algèbres et de groupes de Lie de dimension infinie, *algèbre de Virasoro et généralisations*, *Rep. Math. Phys.*, 35(1995) 225–266.