

”The Trans-Carpathian Seminar on Geometry & Physics”

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

Date: Wednesday, April 10, 2024, 15:15 Bucharest time

Location: online via Zoom

Speaker: **Prof. Stefan Carstea** (IFIN-HH)

Title: **Discrete integrable dynamical systems: geometry of invariants and symmetries**

Abstract: We review some results regarding the singularity analysis and geometry of some discrete dynamical systems. They are treated as mappings defined on the projective plane and the main tool used is the resolution of singularities and linearization action on the corresponding Picard group. The linear character of the bundle mapping on the Picard group allows computing of invariants as proper transforms of the corresponding anti-canonical divisor of the resulting surface (which turns out to be an elliptic fibration). The orthogonal complement of the Dynkin diagram associated with the surface gives the symmetry group associated with the dynamical system. Various aspects about deautonomisations, singular fibers of elliptic fibrations and discrete Painleve equations are also discussed.