Monday, November 24, 2025
from 4:45 p.m. to 6:20 p.m. (Moscow time)
room 16-10 and ZOOM translation

Georgy I. Sharygin

Van den Berg double Poisson brackets on finite-dimensional algebras

One of the basic principles of the modern algebraic noncommutative geometry is the condition proposed by Kontsevich and Rosenberg that a "geometric structure on a noncommutative algebra A should generate a similar ordinary, "commutative" structure on its representation spaces $\mathrm{Rep}_d(A) = \mathrm{Hom}\big(A, \mathrm{Mat}_d(k)\big)$". Thus the concept of "double Poisson brackets" was introduced by M. van den Berg (and almost simultaneously, in a slightly modified form, by W.Crowley-Bovey) in 2008 as an answer to the question: "Which noncommutative structures correspond to Poisson brackets on representation spaces?" The resulting construction turned out to be quite rich and interesting, however, the vast majority of examples of such structures known to this day deal with algebras A that are (close to being) free. In my talk, based on a joint work with my master's student A. Hernandez-Rodriguez, I will describe some simple examples of how such structures look on finite-dimensional algebras.

SCIENTIFIC SEMINAR
"DIFFERENTIAL GEOMETRY AND APPLICATIONS"

headed by Academician of RAS Anatoly T. Fomenko

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