Monday, May 4, 2026
from 4:45 p.m. to 6:20 p.m. (Moscow time)
room 16-10 and ZOOM translation

Galina K. Sokolova

A constructive proof of Plans theorem for two-bridge knots and cones over sandwich graphs

The results of the report are motivated by the classical Planes theorem for knots. Classical Plans theorem states that the first homology group of an odd-fold cyclic covering of the three-dimensional sphere branched over a knot is the direct sum of two copies of some Abelian group. A similar result holds for the first homology group of an even-fold cyclic covering factored by the reduced homology group of a two-fold covering. In the report, a new form for the companion matrix of a polynomials composition over a commutative ring is given. This result is applied to a constructive proof of Plans theorem for two-bridge knots and branched cyclic covers over them. An analog of Plans theorem for cones over sandwich graphs and their Jacobians is also proved. The structure of Abelian groups is described in terms of Chebyshev polynomials of the fourth and second kind.

SCIENTIFIC SEMINAR
"DIFFERENTIAL GEOMETRY AND APPLICATIONS"

headed by Academician of RAS Anatoly T. Fomenko

The zoom-ref is provided only to registered persons
To be registered, ask any participant of our seminar to endorse you
Announcements of previous talks can be found on the seminar website
`http://dfgm.math.msu.su/chairsem.php`