Online Number Theory Seminar

08 May 2026. – 15:00-15:50 (CEST)

D. Neftin: The Reducibility of Curves $f(X) = g(Y)$ and Polynomial Monodromy.

Curves of the form $f(X) = g(Y)$, and in particular elliptic curves $Y^2 = X^3 + aX + b$, play a major role in number theory and far beyond. The classical Davenport–Lewis–Schinzel (DLS) problem concerns their reducibility. Surprisingly, by studying the corresponding monodromy, the problem was found to be related to symmetries of interesting geometric objects such as the Fano plane. We shall describe this relation and how the study of polynomial monodromy allows one to solve the DLS and related problems.