Online Number Theory Seminar

22 May 2026. – 17:00-17:50

A. Dujella: Four squares from three numbers.

We will discuss one variant of the classical problem of Diophantus. We show that there are infinitely many triples of positive integers (a, b, c) (greater than 1) such that $ab+1$, $ac+1$, $bc+1$, and $abc+1$ are all perfect squares. This is a joint work with László Szalay. We will also mention an open problem of the existence of infinitely many triples of distinct non-zero rationals (a, b, c) such that $a+1$, $b+1$, $c+1$, $ab+1$, $ac+1$, $bc+1$, and $abc+1$ are all squares.