SEMINARIO DI TEORIA DEI NUMERI

Lunedì 11 Novembre 2024, ore 14:30

Aula B
Dipartimento di Matematica e Fisica
Università degli studi Roma Tre
Via della Vasca Navale 84

Speaker: *Sebastian Eterovic (University of Leeds)*

Title: Multiplicative Relations Among Differences of Singular Moduli

ABSTRACT: A singular modulus is the j-invariant of an elliptic curve with complex multiplication; as such the arithmetic and algebraic properties of these numbers are of great interest. In particular, there are important results concerning the behavior of differences of singular moduli, and also about the multiplicative dependencies that can arise among singular moduli. In joint work with Vahagn Aslanyan and Guy Fowler we show that for every positive integer n there are a finite set S and finitely many algebraic curves $T\_1,...,T\_k$ with the following property: if $(x\_1,...,x\_n,y)$ is a tuple of pairwise distinct singular moduli so that the differences $(x\_1-y),...,(x\_n-y)$ are multiplicatively dependent, then $(x\_1,..., x\_n, y)$ belongs either to S or to one of the curves $T\_1,...,T\_k$.