

BERNOULLIS TAFELRUNDE

MATH STUDENTS AND PHD SEMINAR

Monday, 05 May 2025, 12:15 - 13:00

Seminar Room 05.002, Spiegelgasse 5

RICCARDO TOSI

Universität Duisburg-Essen

Irrationality proofs and periods of hyperplane arrangements.

ABSTRACT

The values of the Riemann zeta function at odd positive integers greater than 1 are conjectured to be transcendental, yet even their irrationality remains a mostly open question. Recently, new inputs to irrationality proofs have come from geometric methods, especially in connection with periods of hyperplane arrangements. In this talk, we will have a look at some classical strategies to prove the irrationality of a number. Then, we will realize zeta values as periods of some algebraic varieties and finally we will try to understand how this geometric perspective can give further impulse to irrationality proofs for zeta values.