DIISM – Dipartimento di Ingegneria Industriale e Scienze Matematiche

AVVISO DI SEMINARIO

Martedì 5 dicembre 2023 - ore 17.30
presso l'aula 155/B nei locali DIISM

il **Prof. MARIO MARIETTI** (DIISM, UNIVM) terrà un seminario dal titolo

"Flipclasses and the Combinatorial Invariance Conjecture for Kazhdan-Lusztig polynomials"

Abstract: Kazhdan-Lusztig polynomials are fundamental objects in Lie theory and representation theory. Among the combinatorial problems regarding Kazhdan-Lusztig polynomials, arguably the most prominent one is what is usually referred to as the Combinatorial Invariance Conjecture, independently posed in the 80's by Lusztig and Dyer. Recently, an even broader interest in the Combinatorial Invariance Conjecture for the symmetric group has been sparked by the use of certain machine learning models to attack the problem (see [Advancing mathematics by guiding human intuition with AI, Nature, 600 (2021)] and [Towards combinatorial invariance for Kazhdan-Lusztig polynomials, Represent. Theory 26 (2022)]). We approach the Combinatorial Invariance Conjecture from a new perspective. We introduce some combinatorial invariants whose analysis allows us to prove the Combinatorial Invariance Conjecture of the coefficient of q^h of the \widetilde{R}-polynomials, for $h<5$. This talk is based on a joint work with F. Esposito.