Abstract:
I will talk about the conjecture of Hausel, Letellier and Villegas, which gives precise predictions for mixed Hodge polynomials of character varieties. In certain specializations this conjecture also computes Hurwitz numbers, Kac’s polynomials of quiver varieties, and zeta functions of moduli spaces of Higgs bundles. The subject is at an exciting intersection of number theory, algebraic geometry, combinatorics and mathematical physics, and is an area of active research. The talk is deemed as an introduction for a general audience. If time permits, I will explain my recent results in this area.