

Title: A very biased overview of Macdonald polynomials

Abstract: Macdonald polynomials are symmetric functions depending on two parameters that have attracted much interest in the last 30 years. I will give an overview of Macdonald polynomials and their connections with representation theory, geometry and physics. In doing so, I will focus on my main personal obsession of understanding a positivity property of Macdonald polynomials combinatorially. I will show in particular how a new positivity conjecture for the non-symmetric Macdonald polynomials may prove to be helpful.