ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

Invitation to a Talk

Univ.-Prof. Szendröi Balázs, PhD

University of Vienna

"Polytopes, graded rings and the projective coinvariant algebra"

N.1.44 | Wednesday, 30 October 2024 | 10:00 a.m.

Abstract

The coinvariant algebra, the quotient of the polynomial ring in n variables by the ideal generated by positive degree symmetric polynomials, plays a basic role in algebraic combinatorics and the representation theory of the symmetric group, equipping its regular representation with a graded algebra structure. Based on an idea from algebraic geometry, this talk will introduce a degeneration of the coinvariant algebra, the projective coinvariant algebra. This algebra gives a bigraded structure on the regular representation of S_n with interesting Frobenius character, generalising a classical result of Lusztig and Stanley. I will also explain connections to Ehrhart theory, the theory of counting lattice points in polytopes. The talk will partially be based on joint work with Praise Adeyemo, University of Ibadan.

Roswitha Rissner and the Department of Mathematics look forward to seeing you at the talk!