

# INVITATION TO A TALK

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**Univ.-Prof. Szendrői Balázs, PhD**

University of Vienna

**“Polytopes, graded rings and the projective coinvariant algebra”**

📍 N.2.01

📅 Thursday, 16 May 2024

🕒 1:00 p.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!