

Otto-von-Guericke-Universität Magdeburg
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

Herr Ph.D. Liam Solus

(KTH Royal Institute of Technology, Stockholm)

über das Thema

**Real zeros and the alternatingly increasing property in
algebraic combinatorics**

Ort: Otto-von-Guericke-Universität Magdeburg, Gebäude 02, Raum 20

Zeit: Dienstag, 29. Januar 2019, 13.00 Uhr

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Dr. Benjamin Nill

Abstract: A central theme in algebraic, geometric, and topological combinatorics is the investigation of distributional properties of combinatorial generating polynomials, such as symmetry, log-concavity, and unimodality. Recently, new questions in the field ask when such polynomials possess another distributional property, called the alternatingly increasing property, which implies unimodality. The alternatingly increasing property for a given polynomial is equivalent to a unique pair of symmetric polynomials both having nonnegative coefficients and being unimodal. We will discuss a systematic approach to proving the alternatingly increasing property using real zeros of these symmetric polynomials. We will then look at some applications of these methods to recent questions and conjectures in algebraic combinatorics.