

Otto-von-Guericke-Universität Magdeburg  
Fakultät für Mathematik

Auf Einladung des Institutes für Algebra und Geometrie spricht

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über das Thema

**The Gröbner basis for powers of a general linear form  
in a monomial complete intersection**

**Zeit:** Dienstag, 12. Mai 2026, 13.15 Uhr, G02-20

Zu diesem Vortrag laden wir alle Interessierten herzlich ein.

Prof. Dr. Thomas Kahle

**Abstract:** In this talk, I will give the main ideas for a new proof that Artinian monomial complete intersections have the strong Lefschetz property over a field of characteristic zero. This is done by establishing an explicit Gröbner basis for the ideals generated by such monomial complete intersections together with the power of a sufficiently general linear form. The establishing of this Gröbner basis is mostly combinatorial with a lattice path argument for its initial ideal at its core. At the end, I will mention some connections to several well-known combinatorial sequences. This is based on joint work with Samuel Lundqvist, Fatemeh Mohammadi and Matthias Orth.