

The logo for the Austrian Science Fund (FWF) consists of the letters 'FWF' in a bold, blue, sans-serif font.

Der Wissenschaftsfonds.

The logo for the Johann Radon Institute for Computational and Applied Mathematics (RICAM) features the letters 'RICAM' in a large, blue, sans-serif font, with the full name in smaller text below.

## Einladung

zum Vortrag im Rahmen des **SFB Colloquiums** (Standort Linz), mit dem Titel

# Multiplicative dependence among values of rational functions and their iterates

VORTRAGENDE: **Alina Ostafe**, UNSW Sydney

DATUM: Mittwoch, 16. Jänner 2019

ZEIT: 10:00 Uhr

ORT: Science Park 2, SP2 416-2, JKU Linz

**Abstract:** Bombieri, Masser and Zannier (1999) proved that the intersection of a curve defined over a number field with the union of all proper algebraic subgroups of the multiplicative group  $G_m^n$  is a set of bounded height (unless this is false for an obvious reason).

Based on this result, in this talk we present recent finiteness results on multiplicative relations of values of rational functions defined over a number field. As an application, we obtain new results on multiplicative dependence in the orbits of a univariate polynomial dynamical system. We also obtain a broad generalisation of the Northcott theorem replacing the finiteness of preperiodic points from a given number field by the finiteness of initial points with two multiplicatively dependent elements in their orbits modulo a finitely generated multiplicative group.

---

Das **SFB Colloquium** wird vom **FWF Special Research Program (SFB) Quasi-Monte Carlo Methods: Theory and Application** unterstützt