

The **Vienna School of Mathematics (VSM)** is a joint graduate school of the mathematics faculties of the **University of Vienna** and the **TU Wien**. The VSM is devoted to top-level PhD education in all branches of mathematics. It fosters intra- and interdisciplinary scientific cooperation and networking among students and advisors and aims at increasing the international visibility of the Vienna area as a center for mathematics.

The VSM currently announces a PhD position in the area of

Combinatorial enumeration problems and enumerative algebraic geometry

**(University of Vienna, Supervisors: Balázs Szendrői,
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Combinatorial enumeration problems are ubiquitous in enumerative algebraic geometry. The number of partitions, respectively plane partitions of a number n can for example be interpreted as a key quantity in the enumerative geometry of the affine plane and 3-space, respectively. The McKay correspondence and more generally finite group actions lead to coloured and enhanced versions of these enumeration problems. In a different direction, Grothendieck polynomials, related to the K -theory of complete flag varieties, can be written as weighted sums parametrized by alternating sign matrices, which are also classical objects in combinatorics. The purpose of this project is to study related problems of both combinatorial and enumerative interest.

The advertised position is associated with the Faculty of Mathematics of the **University of Vienna**. The successful candidate will become a member of the Vienna School of Mathematics and is expected to actively contribute to its activities. The extent of employment is 30 hours per week. The position is planned to start on September 1, 2023.

Application Requirements and Procedure

The candidates must have a master degree (or equivalent) in Mathematics at the moment the PhD position starts and a high level of competence in (or experience of) algebraic geometry. The application documents should contain a letter of motivation; the scientific CV with publications list; higher education certificates/diplomas. Applications have to be sent via the Job Center of the University of Vienna [under Reference Number 14096](#). The deadline for application is **April 30, 2023**.