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

Parameter analysis of certain classes of directed acyclic graphs
(Technische Universität Wien, Supervisor: Bernhard Gittenberger)

The PhD project aims at understanding the shape of data structures that arise from a compaction process and can combinatorially be seen as directed acyclic graph, but for which combinatorial specifications in the sense of analytic combinatorics are unknown. The first task is to specify and asymptotically count (not strictly) increasingly labeled combinatorial structures that extend classical evolution processes. A second task will be a parameter analysis of these structures. Further tasks can be to contribute to the development of the method of the approximate Borel transform or to translate the findings to more intricate structures like Boolean circuits or some classes of binary decision diagrams.

The basic requirement for the position is a good working knowledge in analytic combinatorics. As the project is set in the boundary of mathematics and computer science, good programming skill are desired as well.

The PhD position is associated with the combinatorics and algorithms group of the Institute of Discrete Mathematics and Geometry at the Technische Universität Wien. It is funded by the ANR-FWF joint project "Parameter analysis of certain classes of directed acyclic graphs". 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, and the salary includes full social insurance. The funding is guaranteed for three years. The position is supposed to start on March 1, 2024.

Application Requirements and Procedure
The candidates must have a master degree (or equivalent) in Mathematics at the moment the PhD position starts. The application documents should contain a letter of motivation; the scientific CV with list of publications; higher education certificates/diplomas; and letter(s) of recommendation preferably sent directly to gittenberger@dmg.tuwien.ac.at by the person writing the letter.
Applications shall be sent to gittenberger@dmg.tuwien.ac.at in a **single** PDF file. The deadline for applications is **February 12, 2024**.