Open Postdoc position in the area of

Universal Phenomena in Analytic Combinatorics
(TU Wien, Supervisor: Michael Wallner)

This position is part of the FWF-funded ASTRA project "Universal Phenomena in Analytic Combinatorics" (UNPAC). The project acts as a bridge between Analytic, Probabilistic, and Combinatorial approaches to discrete mathematics. It aims to uncover and utilize universal and unconventional asymptotic phenomena of large discrete structures appearing in combinatorics, computer science, and biology.

We are looking for a postdoctoral researcher interested in working on one or more of the following aspects of lattice paths, graph-structures, or bivariate recurrences:

- **Analytic:** Asymptotics of lattice paths in higher dimensions with polynomial weights (bivariate recurrences, generating functions), characterizing recurrences with unconventional asymptotics like stretched exponentials.

- **Probabilistic:** Phase transitions between limit laws using generating functions and recurrences.

- **Combinatorial:** Interdisciplinary applications of the enumeration of Young tableaux, lattice paths, and graphs in, e.g., theoretical physics, mathematical biology, or computer science.

The specific research direction is flexible. We explicitly encourage candidates with a strong background in *any* of these three pillars to apply.

For more information, please visit https://dmg.tuwien.ac.at/mwallner/unpac.

We are looking for a postdoctoral researcher with a strong background in **Discrete Mathematics, Combinatorics,** and **Complex Analysis**. Knowledge of analytic combinatorics is an advantage, but not strictly required. Furthermore, familiarity with computer algebra systems (Maple, Mathematica, or SageMath) and programming is highly valued to support the project's computational aspects.

The advertised position is associated with the **Institute of Discrete Mathematics and Geometry** at **TU Wien** in the research group Combinatorics and Algorithms led by Prof. Michael Drmota. The extent of employment is 40 hours per week with a standard FWF Postdoc salary. The position is expected to start in September 2026, but later dates are also possible. The contract is for one year, extendable by one additional year.

Application Requirements and Procedure

The candidates must have a PhD degree (or equivalent) in Mathematics at the moment the position starts. The application documents should contain a letter of motivation (including title and topic of PhD thesis, as well as name and contact details of the supervisor; max. 2 pages); the scientific CV with publications list; higher education certificates/diplomas; a list of courses taken so far; the PhD thesis; and 2 letters of recommendation preferably sent directly to michael.wallner@tuwien.ac.at by the person writing the letter. Applications have to be sent to michael.wallner@tuwien.ac.at if possible in a single PDF file. The deadline for applications is **April 30, 2026.** Applications received after this date may be considered if the position has not yet been filled. Shortlisted candidates will be invited for an (online) interview.