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 up to 12 PhD positions in the area of

Axioms of Mathematics
(possible supervisors: J.P. Aguilera (TU Wien), V. Fischer (University of Vienna), L. Kovács (TU Wien), S. Müller (TU Wien), M. Pinsker (TU Wien), G. Schiemer (University of Vienna)

The positions will be part of the FWF Emerging Fields project UnAxiMa (Uncovering the Axioms of Mathematics) which is hosted at TU Wien and the University of Vienna, Austria. The goal of the 5-year project is to explore the axioms of mathematics taking into account aspects of mathematical logic (in particular, set theory, computability theory, and reverse mathematics), complexity theory, automated theorem proving, and philosophy. The project is jointly led by six principal investigators: Juan P. Aguilera (TU Wien), Vera Fischer (University of Vienna), Laura Kovács (TU Wien), Sandra Müller (TU Wien), Michael Pinsker (TU Wien), and Georg Schiemer (University of Vienna). The project website is

https://unaxima.com/

We are looking for highly motivated and creative candidates, and in particular encourage female researchers to apply. The applicants should have a strong background in at least one of the following fields: mathematical logic, theoretical computer science, universal algebra, or philosophy of mathematics. Formal requirements are a Master's degree or equivalent in mathematics, computer science, or philosophy. Successful candidates will be based at either TU Wien or University of Vienna, but will collaborate with all of the 18-24 team members intensively.

Instructions for how to apply will appear at unaxima.com in early May 2026.
Applications will be accepted until the positions are filled. For full consideration, we encourage applications by May 22nd, 2026. Successful applicants will start in October 2026 or as soon as possible thereafter, but not later than October 2027. The duration of the positions will be up

to 4 years (for PhD positions), with initial contracts offered for one year, and prolongation subject to evaluation. The positions carry no teaching load; however, participation in teaching might be arranged if desired. There is sufficient funding for conference and research exchange trips.

Applicants will be required to submit a motivation letter, a CV (including list of publications, if applicable), and a statement of research experience and interests (2 pages maximum). A transcript of records as well as a copy of the Master's thesis should be included if available (otherwise, any other written work such as a draft or Bachelor's thesis are welcome). Applicants should moreover arrange for at least two recommendation letters to be submitted directly to UnAxiMa. Formal applications will be submitted through a system to be announced on

https://www.unaxima.com/careers

in early May 2026. Informal inquiries about these posts may be directed to Professor Michael Pinsker, chair of the Hiring Committee, at jobs@unaxima.com.

About UnAxiMa:

UnAxiMa is an interdisciplinary project integrating mathematics, computer science, and philosophy to address one of the most fundamental questions in science:
What should the rules of mathematics be?
This question was investigated already 100 years ago by the Vienna Circle, a group of leading intellectuals from mathematics, philosophy, and the natural sciences. Their work culminated in Gödel's incompleteness theorems, one of the most significant achievements in the foundations of science. According to Gödel's theorems, there will always be mathematical questions which cannot be answered using the rules of mathematics. Such questions have appeared in algebra, analysis, combinatorics, topology, information theory, game theory, machine learning, and other fields. This ever-growing list compels us to seek more powerful rules which extend mathematics beyond its current reach. In UnAxiMa, we aim to identify new rules which could change forever the way that mathematics is done, taught, and applied, as well as our very conception of what mathematics is.

Adequate rules for mathematics must reflect current scientific understanding, which has changed dramatically since Gödel's time: mathematical disciplines have become increasingly specialized and the world has seen radical technological advances. For the first time, UnAxiMa addresses both phenomena by uniting six disciplines towards distilling new rules which are theoretically sound and practically viable. The fields of Reverse Mathematics, Complexity Theory, Forcing, and Inner Model Theory evolved in the second half of the 20th century, and nourish our insight into the axioms of mathematics and their limits. Automated Theorem Proving, as part of artificial intelligence, is now seeing accelerated progress, thereby challenging our rules by the practical need of efficiency. Philosophy of Mathematics serves as the guiding light in our quest for rules that reflect our understanding of truth.

UnAxiMa isolates core questions on the relationship between axioms and computation, incompleteness, and necessity. The answers to these questions require interdisciplinary collaboration and have the potential to lead to a paradigm shift in the foundations of mathematics.

UnAxiMa gathers, in a single geographic location, world-leading experts from each of the six fields necessary to realize its collaborative vision. The project emerges as the culmination of 100 years of research, which have created an unprecedented scientific landscape where the momentum to rethink our scientific foundations is centered in Vienna once again. In a historic effort, UnAxiMa shall uncover the axioms of mathematics.