

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

Collective dynamics: from individual-based models to continuum equations
(University of Vienna, Supervisor: Sara Merino-Aceituno)

Kinetic theory provides powerful tools to study how macroscopic phenomena (observable patterns and dynamics) emerge from underlying microscopic dynamics. This approach can be applied to biological and social systems to understand how collective behaviors (such as cell migration, bird flocking, opinion formation, and network development) originate from individual interactions. The goal of this project will be to apply kinetic theory tools to investigate the fundamental link between individual and collective behavior. The research will utilize differential equations, mathematical analysis, interacting-particle systems, and computational simulations. Part of this project will be in collaboration with a group of biologists.

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, 2025, but the starting date is flexible.

Application Requirements and Procedure

The candidates must have a bachelor degree and a master degree in Mathematics at the moment the PhD position starts. The application documents should contain a letter of motivation; a CV; higher education certificates/diplomas; transcript of the marks obtained during the bachelor and the master; and two letters of recommendation. Applications have to be sent via the link: <https://sfb65.univie.ac.at/call/2025/03/call/>. The deadline for application is **13th of May, 2025**.