



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 two PhD positions in the area of

Variational Analysis of Magnetic Skyrmions (TU Wien, Supervisors: E. Davoli, G. Di Fratta)

The successful candidates will be associated with MedUniWien in the framework of the newly funded FWF grant "Analysis and modeling of magnetic skyrmions" and will enroll in the PhD program of TU Wien. The project intends to contribute to our theoretical understanding of magnetic skyrmions, a fundamental issue that relies on a combination of ideas from various fields, including topology, partial differential equations, and calculus of variations. The methods used will contribute to the mathematical theory of PDEs and will propel applications in related fields. Indeed, similar open questions permeate additional areas of condensed and soft matter physics (such as superconductivity and nematic liquid crystals), and their answers often demand new mathematical machinery.

Ideal candidates would have a strong background in the calculus of variations, geometric measure theory, and a strong interest in differential geometry. The extent of employment is 30 hours per week. The starting date for the positions is as soon as possible and no later than September 2022.

Application Requirements and Procedure

The candidates must have (or be close to obtaining) a master's degree (or equivalent) in Mathematics/Physics or related areas. PhD candidates are requested to provide a detailed CV and a short description of current scientific interests, together with the names and full contact addresses of two references. The successful candidates will become members of the Vienna School of Mathematics. Applications should be sent as a single PDF file to elisa.davoli@tuwien.ac.at and giovanni.difratta@gmail.com. Informal inquiries are to be sent to the same email addresses. The application deadline for both positions is **April 30th, 2022**. Among equally qualified applicants, women will receive preferential consideration. Candidates from Ukraine are particularly encouraged to apply.