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

Stability of Deep Learning Methods in PDEs and Dynamical Systems
(University of Vienna, Supervisors: S. Lanthaler and P. Petersen)

Deep learning and general machine learning methods play an increasing role in classical problems of applied mathematics. However, the success of these tools frequently is very sensitive to the data or other problem specifications. In applications to dynamical systems and PDEs, notions of instability arise naturally, and they empirically affect the most successful formulation of the learning task. The goal of this project is to understand the role of instabilities, as well as the potential for stable problem formulations, in the context of these mathematical fields.

We are looking for an ambitious PhD student with a solid background in at least one of the fields: numerical analysis, machine learning, partial differential equations, and functional analysis.

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 May 1, 2025.

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 publications list; higher education certificates/diplomas; and letter(s) of recommendation. Applications have to be sent via the Job Portal of the University of Vienna at the following link. The deadline for application is **April 17, 2025.**