

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

Frame Multiplier Theory (University of Vienna, Supervisor: D. Stoeva)

Multipliers are operators that arise naturally from applications and occur in scientific questions in various disciplines like signal processing, mathematics, physics, and other. In signal processing, roughly speaking one can think about a multiplier as a tool for a signal modification. While multipliers have long been used implicitly in applications, their in-depth theoretical study in relation to frame theory became a research focus only in the last two decades. The advertised position(s) is/are through the project “Challenges in Frame Multiplier Theory (ChaMp)” funded by the Austrian Science Fund (FWF). The ChaMp project aims at investigation of some challenging questions on multipliers that have remained open for years, as well as at in-depth study of various characteristics of the multiplier operators, in particular, eigenvalues and eigenvectors, invertibility, efficient inversion, and other.

We offer 1-2 positions in this area. Possible Ph.D. projects may be concerned with questions related to inversion of multipliers and other ChaMp related topics.

The basic requirements for the position(s) are a solid background knowledge of Functional analysis, fluency in English (spoken and written), creativity and initiative skills, and ability to work independently as well as in a team. Further qualification as an advantage: Master thesis related to some of the following areas - Frame theory, Harmonic Analysis, Operator theory; experience with Matlab; programming skills.

The advertised position(s) is/are associated with the Faculty of Mathematics of the **University of Vienna** through the ChaMp project led by Doz. Dr. Diana Stoeva. The successful candidate(s) will become a member/members of the Vienna School of Mathematics and is/are expected to actively contribute to its activities. The extent of employment is 30 hours per week for 3 years. The position(s) is/are expected to start on February 1, 2024.

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 (max. 1 page); the scientific CV with publications list; higher education certificates/diplomas and official Transcript of Records (scan of the original documents and translation in English if the originals are not in English); copy of the master’s thesis, and 3 letters of recommendation preferably sent directly to diana.stoeva@univie.ac.at by the person writing the letter. Applications have to be sent to diana.stoeva@univie.ac.at, if possible in a single PDF file. The deadline for applications is **February 15, 2024**.