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

Affine geometry on Lie groups and Lie-algebraic structures
(University of Vienna, Supervisor: D. Burde)

Geometric structures on Lie groups and the study of related algebraic structures is an active research area in geometry and algebra. The tools here are mainly Lie-algebraic and homological algebra methods, as well as representation theory.

The topics include, among other things, affine and nil-affine actions on Lie groups, crystallographic actions and generalizations of these. The associated algebraic structures are Lie algebras, pre-Lie algebras, post-Lie algebras and other algebras, reductive algebraic groups, prehomogeneous modules, classical and modified Yang-Baxter equations and Rota-Baxter operators. The concrete thesis project will be developed jointly with the successful applicant.

The candidates are expected to have a basic knowledge in differential geometry and a good background in algebra and homological algebra. A more specific background in Lie algebras and Lie groups, representation theory and algebraic Lie theory in general is of advantage but not strictly required.

The advertised position is associated with the Faculty of Mathematics of the **University of Vienna** in the Research Group on Lie Theory of Prof. Dr. Dietrich Burde. 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 will start on January 1, 2021.

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 to office@vsmath.at. The deadline for applications is **November 6, 2020.**