SALZBURG MATHEMATICS COLLOQUIUM
Summer 2023

Birgit Schörkhuber (Innsbruck)
„Singularity formation for the three-dimensional Keller-Segel model"
June 29, 2023

Abstract:

The description of dynamics in terms of time-dependent partial differential equations (PDEs) plays a fundamental role in natural sciences and applications. In many models, nonlinearities appear naturally due to self-reinforcing processes. Consequently, nonlinear effects may dominate smoothing mechanisms such as dissipation or dispersion, resulting in the formation of singularities in finite time, i.e. solutions might "blow up".

In this talk, I will give a general introduction into this topic and discuss recent results on singularity formation for the Keller-Segel equation, which is a well-known model in mathematical biology and astrophysics.

The talk is based on joint work with Irfan Glogić.

Thursday, **15:00-15:45**
Hörsaal 414, 1. Stock