

17.05.2021

**Monday's Nonstandard Seminar 33**

**14:00**

Author: Verena Bögelein (University of Salzburg)

Title: **Higher regularity in congested traffic dynamics**

Abstract: We consider an elliptic system that is motivated by a congested traffic dynamics problem. It has the form

$$\operatorname{div} \left( (|Du| - 1)_+^{p-1} \frac{Du}{|Du|} \right) = f,$$

and falls into the context of very degenerate problems. Continuity properties of the gradient have been investigated in the scalar case by Santambrogio & Vespri and Colombo & Figalli. In this talk we establish the optimal regularity of weak solutions in the vectorial case for any  $p > 1$ . This is joint work with F. Duzaar, R. Giova and A. Passarelli di Napoli.