RUHR-UNIVERSITÄT BOCHUM

FAKULTÄT FÜR MATHEMATIK

RUB

Alberto Abbondandolo, Luca Asselle, Barney Bramham
Gerhard Knieper, Stefan Suhr, Kai Zehmisch

Oberseminar Dynamische Systeme

Convex integration with avoidance

Dienstag, 05. Dezember 2023
16:15 Uhr – Raum IA 1/53

Álvaro del Pino
(Utrecht)

Abstract:

Convex integration is one of the most important tools in the construction of solutions of partial differential relations. It was first introduced by J. Nash in his work on C^1 isometric embeddings and later generalised by M. Gromov to deal with a large class of differential relations satisfying a geometric condition called ampleness.

Gromov developed various flavours of ampleness to which convex integration applies. Roughly speaking, there is an "easy" to check version (ampleness in all principal directions) that is limited in its applications, and an "impossible" to check version (ampleness via convex hull extensions) that is extremely general.

This will motivate me to discuss a new version of convex integration and a corresponding notion of ampleness, called ampleness up to avoidance. This notion is checkable in practice and applies in more generality than ampleness in all principal directions. This is joint work with F.J. Martínez Aguinaga.

Guests are very welcome!