# Einladung zum Kolloquiumsvortrag

Am Freitag, dem 2. September 2022 um 15.00 Uhr spricht Frau Prof. Dr. Beata Rzepka (Rzeszów University of Technology, Poland) zum Thema

## Measures of Noncompactness in Function Spaces: Theory

**Abstract.** One of the most important and useful existence results for solutions of nonlinear problems is Schauder's celebrated fixed point principle for compact continuous operators in Banach spaces. On the other hand, since many important operators arising in nonlinear analysis are not compact, it is not surprising that various attempts have been made to weaken the compactness requirements in fixed point theory.

Here one of the crucial notions which turned out to be useful is that of a measure of noncompactness and the related notion of condensing operators. The first fixed point theorems for such operators have been given by Gabriele Darbo and Boris N. Sadovskij. However, since their original papers were written in Italian resp. Russian, the nonlinear community remained unaware of their results for many decades. Only after the publication of several monographs on this topic, measures of noncompactness and condensing operators became a fashionable and important field of nonlinear analysis.

The purpose of the talk is to recall the basic definitions and results on measures of noncompactness and condensing operators, with a particular emphasis on the classical Kuratowski measure of noncompactness.

Der Vortrag findet im Raum SE 30 des Mathematischen Instituts Emil-Fischer-Str. 30 statt. Danach gibt es Kaffee und Tee im 3. Stock. Alle Institutsmitglieder sind herzlich eingeladen.

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