universität wien
Fakultät für Mathematik

EINLADUNG

zum

HABILITATIONSVORTRAG

Dr. Damian Sobota
(Fakultät für Mathematik, Universität Wien)

"On the complementability of the space c_0 in spaces of continuous functions"

"On the complementability of the space c_0 in spaces of continuous functions"

Abstract:
The space $c_0 = \{x \in \boldsymbol{R}^{\boldsymbol{N}} : x(n) \to 0\}$, endowed with either the supremum norm or the pointwise topology, plays a crucial role in the study of structural, geometric, and topological properties of Banach spaces. During this talk we will investigate when c_0 is isomorphic to complemented subspaces of various locally convex spaces of continuous functions. We will first discuss several characterizations of the existence of a complemented copy of c_0 in Banach spaces $C(K)$ of continuous real-valued functions on compact spaces K and in spaces $C_p(X)$ of continuous real-valued functions on Tychonoff spaces X endowed with the pointwise topology. We will then construct such copies in spaces of the form $C_p(X \times Y)$ as well as, much stronger, we will establish the existence of isometric copies of the Banach space $C([0,1])$ in many spaces of the form $C(K \times L)$. Finally, we will provide a criterion for the existence of complemented copies of c_0 in spaces $C_p(X, E)$ of continuous E-valued functions on Tychonoff spaces X, where E is a locally convex space—the case of spaces $E = C_p(Y)$ will be of our particular interest.

Donnerstag, 6. März 2025
14:00 Uhr bis 14:45 Uhr,
Ort: Besprechungszimmer 02, 2. OG.
Fakultät für Mathematik,
Oskar-Morgenstern-Platz 1

Ulisse Stefanelli
Radu Bot