KURT GÖDEL RESEARCH CENTER FOR MATHEMATICAL LOGIC

UNIVERSITÄT WIEN

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O.UNIV.-PROF. DR. SY-DAVID FRIEDMAN

INVITATION

BOAZ TSABAN
(Bar-Ilan University, Tel Aviv, Israel)

ON THE EXISTENCE OF REAL FRÉCHET-URYSOHN FUNCTION SPACES

Abstract:

A topological space is Fréchet-Urysohn if every point in the closure of a set is in fact a limit of a sequence in that set. For a real set X, let $C(X)$ be the space of continuous real functions, with the topology of pointwise convergence. Gerlits and Nagy proved that the space $C(X)$ is Fréchet-Urysohn if and only if the real set X has a certain elegant covering property. Sets X with this property are called γ-sets.

In 2011, I concluded a line of research with the ultimate possible construction of a concentrated real γ-set. This resolved a good number of problems in real set theory. Since then, the theorem was verified and applied several times, and refined results were obtained, but no one, including me, really understood the proof. I will present the main ingredients of a more intuitive proof, that grows naturally from the study of related covering properties (known as selection principles). This proof was presented successfully, with full details, in a course for graduate and advanced undergraduate students.

Reference

T. Orenshtein, B. Tsaban, Linear σ-additivity and some applications, Transactions of the American Mathematical Society 363 (2011), 3621-3637.

THURSDAY, OCTOBER 27, 2016
Tea at 3:30pm in the KGRC meeting room (room 104)
Talk at 4:00pm in the KGRC lecture room (room 101)
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