KURT GÖDEL RESEARCH CENTER FOR MATHEMATICAL LOGIC

UNIVERSITÄT WIEN

1090 WIEN, WÄHRINGER STRASSE 25

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

INVITATION

MAXWELL LEVINE
(KGRC)

FORCING SQUARE SEQUENCES

Abstract:

In the 1970's, Jensen proved that Gödel's constructible universe L satisfies a combinatorial principle called $\square_\kappa$ for every uncountable cardinal κ. Its significance is partially in that it clashes with the reflection properties of large cardinals—for example, if μ is supercompact and $\kappa \geq \mu$ then $\square_\kappa$ fails—and so it characterizes the minimality of L in an indirect way. Schimmerling devised an intermediate hierarchy of principles $\square_{\kappa,\lambda}$ for $\lambda \leq \kappa$ as a means of comparing a given model of set theory to L, the idea being that a smaller value of λ yields a model that is more similar to L at κ.

Cummings, Foreman, and Magidor proved that for any $\lambda < \kappa$, $\square_{\kappa,\lambda}$ implies the existence of a PCF-theoretic object called a very good scale for κ, but that $\square_{\kappa,\kappa}$ (usually denoted $\square^*_\kappa$) does not. They asked whether $\square_{\kappa,<\kappa}$ implies the existence of a very good scale for κ, and we resolve this question in the negative.

We will discuss the technical background of the problem, provide a complete solution, and discuss further avenues of research.

THURSDAY, NOVEMBER 30, 2017
Tea at 3:30pm in the KGRC meeting room (room 104)
Talk at 4:00pm in the KGRC lecture room (room 101)
GÖDEL RESEARCH CENTER
JOSEPHINUM, 1090 WIEN, WÄHRINGER STRASSE 25

http://www.logic.univie.ac.at/Research_seminar.html

o.Univ.-Prof. Dr. Sy-David Friedman