

abstract

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

I will survey the development of modern infinite cardinal arithmetic, focusing mainly on S. Shelah's algebraic pcf theory, which was developed in the 1990s to provide upper bounds in infinite cardinal arithmetic and turned out to have applications in other fields.

This modern phase of the theory is marked by absolute theorems and rigid asymptotic structure, in contrast to the era following P. Cohen's discovery of forcing in 1963, during which infinite cardinal arithmetic was almost entirely composed of independence results.

Applications of both the meta-mathematical side and the more modern, rigid side of cardinal arithmetic to problems in convexity theory, measure theory and graph theory will be presented. This will lead to a discussion of whether infinite cardinal arithmetic does now, or at least will in the future, resemble number theory.