

Forcing indestructibility, spectra and definability

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In this talk, we will consider recent advances in the study of the so-called combinatorial sets of reals, i.e. sets that are usually associated with the combinatorial cardinal characteristics of the continuum. Of particular interest will be their spectra, i.e. their possible cardinalities and their projective complexity. In analyzing these aspects, we will encounter natural strengthenings of maximality for such sets, which provide forcing indestructibility in various forcing extensions. We will conclude by discussing an interesting new ZFC inequality between two well-known cardinal characteristics: the ultrafilter number and the ideal independence number.