Publicacions més rellevants de la línia de recerca:
Àlgebres de Boole

Referència: Martínez, J.C. A consistency result on cardinal sequences of scattered Boolean spaces. *Mathematical Logic Quarterly*, **51(6)** (2005), pp. 586–590.

Abstract: We prove that if GCH holds and $\tau = \langle \kappa_\alpha : \alpha < \eta \rangle$ is a sequence of infinite cardinals such that $\kappa_\alpha \geq |\eta|$ for each $\alpha < \eta$, then there is a cardinal-preserving partial order that forces the existence of a scattered Boolean space whose cardinal sequence is τ.

Referència: Martínez, J.C. and Soukup, L. Universal locally compact scattered spaces. Per aparèixer a *Topology Proceedings.*

Abstract: If δ is an ordinal, we denote by $\mathcal{C}(\delta)$ the class of all cardinal sequences of length δ of LCS spaces. If λ is an infinite cardinal, we write

$$\mathcal{C}_\lambda(\delta) = \{s \in \mathcal{C}(\delta) : s(0) = \lambda = \min[s(\zeta) : \zeta < \delta]\}.$$

An LCS space X is called $\mathcal{C}_\lambda(\delta)$–*universal* if $\mathrm{SEQ}(X) \in \mathcal{C}_\lambda(\delta)$, and for each sequence $s \in \mathcal{C}_\lambda(\delta)$ there is an open subspace Y of X with $\mathrm{SEQ}(Y) = s$.

We show that

- there is a $\mathcal{C}_\omega(\omega_1)$–universal LCS space,
- under CH there is a $\mathcal{C}_\omega(\delta)$–universal LCS space for every ordinal $\delta < \omega_2$,
- under GCH for every infinite cardinal λ and every ordinal $\delta < \omega_2$, there is a LCS $\mathcal{C}_\lambda(\delta)$–universal LCS space,
- there may exists an $\mathcal{C}_\omega(\omega_2)$–universal LCS space.

As a consequence, we obtain that it is consistent that $2^\omega = \omega_2$ and $\mathcal{C}_\omega(\omega_2)$ is large as possible, i.e.

$$\mathcal{C}_\omega(\omega_2) = \{s \in {}^{\omega_2}\{\omega, \omega_1, \omega_2\} : s(0) = \omega\}.$$