

Ultraprobabilities: a bridge between the Ribe and Kalton programs

Florent Baudier

Texas A&M University

The Ribe program is a far-reaching program whose goal is to reformulate in purely metric terms local properties of Banach spaces. The Kalton program has a similar goal but for asymptotic properties instead. In this talk, we will revisit the profound connections between local and asymptotic properties of Banach spaces from a new probabilistic angle. This approach has many advantages. In particular, it suggests a conceptual bridge between the Ribe and Kalton programs. Moreover, it naturally leads to a notion of asymptotic nonpositive curvature for metric spaces. This is a joint work with Luis Aceves (Texas A&M University), and other applications of this new approach will be discussed in Luis Aceves' presentation.

In Special Session 10 on Nonlinear Analysis on Banach Spaces at the Mathematical Congress of the Americas 2025.