

## Introductory talk: The Numerical, the Random and the Tropical.

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This workshop lists three subjects, and I intend to show how the three are entangled and unavoidable in applied algebraic geometry. I will briefly survey condition numbers, homotopy algorithms and how randomness makes them competitive. Then I will show how this theory fails miserably, unless tropical algebraic geometry is brought into the picture.

In Special Session 41 on Algebraic Geometry: the Numerical, the Random and the Tropical at the Mathematical Congress of the Americas 2025.