ID de Contribution: **17**   Type: **Non spécifié**

Waves, Nonlinearity and Geometry or How Sergiu Klainerman Has Influenced Generations of Mathematicians

jeudi 15 janvier 2026 16:45 (1h 30m)

Over the past four decades, the analysis of nonlinear wave equations has changed dramatically, with the emergence of many new methods that have led to remarkable and influential results.

Central to this transformation is the work of Sergiu Klainerman, which has reshaped the analysis of hyperbolic equations and influenced several generations of researchers.

This talk will survey some of Klainerman's seminal ideas and results, beginning with his earlier work on the analysis quasilinear wave equations in the large, the commuting vector field method and the null condition.

I will then describe how this framework extended naturally into geometric settings, leading to major break-throughs such as the nonlinear stability of Minkowski space. I will also discuss how related ideas and techniques influenced other fundamental developments in mathematical relativity, including results on the uniqueness and rigidity of black holes, the proof of the L^2 curvature theorem and the more recent developments on the stability of black holes.

Throughout the talk, I will reflect on how these ideas have influenced the works of many other mathematicians, including work I have been involved in, and continue to shape the field today.

Orateur: SMULEVICI, Jacques (Sorbonne Université)