Abstract:
I will explain a new proof of the non-linear stability of the Minkowski spacetime as a solution of the Einstein vacuum equation. The proof relies on an iteration scheme at each step of which one solves a linear wave-type equation globally. The analysis takes place on a suitable compactification of $\mathbb{R}^4$ to a manifold with corners whose boundary hypersurfaces correspond to spacelike, null, and timelike infinity; I will describe how the asymptotic behavior of the metric can be deduced from the structure of simple model operators at these boundaries. This talk is based on joint work with Andras Vasy.