MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF MATHEMATICS

Geometric Analysis Seminar

Wednesday, March 9, 2022

4:00pm – 5:00pm   2-131

Ao Sun

(University of Chicago)

"Existence of minimal hypersurfaces with arbitrarily large area."

Abstract

I will present an approach to find minimal hypersurfaces with arbitrarily large area in a closed manifold with dimension between 3 and 7. The method is based on the novel Almgren-Pitts min-max theory, and its further development by Marques-Neves, Song and Zhou. Among the applications, we can show that there exist minimal hypersurfaces with arbitrarily large area in an analytic manifold. In the case where this approach does not work, it is surprising that the space of minimal hypersurfaces has a Cantor set fractal structure. This is joint work with James Stevens (UChicago).