



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

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**M. E. Taylor Analysis and PDE Seminar**

September 27, 2023  
3:30 - 4:30 p.m.  
Phillips Hall 385

**Higher codimension area-minimizers: structure of singularities and uniqueness of tangent cones**

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**Abstract.** The problem of determining the size and structure of the interior singular set of area-minimizing surfaces has been studied thoroughly in a number of different frameworks, with many ground-breaking contributions. In the framework of integral currents, when the codimension of the surface is higher than 1, the presence of singular points with flat tangent cones creates an obstruction to easily understanding the interior singularities. Little progress has been made in full generality since the celebrated  $(m - 2)$ -Hausdorff dimension bound on the singular set due to Almgren, which was since revisited and simplified by De Lellis and Spadaro.

In this talk I will discuss recent joint works with Camillo De Lellis and Paul Minter, where we establish  $(m - 2)$ -rectifiability of the interior singular set of an  $m$ -dimensional area-minimizing integral current and show that the tangent cone is unique at  $\mathcal{H}^{m-2}$ -a.e. interior point.