



THE UNIVERSITY  
of NORTH CAROLINA  
at CHAPEL HILL

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## Analysis and PDE Seminar

March 8, 2023  
3:00 - 4:00 p.m.  
PH 328

### Colding-Minicozzi entropies in Cartan-Hadamard manifolds

Jacob Bernstein (Johns Hopkins, IAS)

**Abstract.** I will discuss a family of functionals defined on submanifolds of Cartan-Hadamard manifolds that generalize the Colding-Minicozzi entropy of submanifolds of Euclidean space. These quantities are monotone under mean curvature flow under natural conditions. As a consequence, we obtain sharp lower bounds on them for certain closed hypersurfaces and observe a novel rigidity phenomenon. This is joint work with A. Bhattacharya.