



# RUTGERS-CAMDEN MATH SEMINAR

10-11, FRIDAY NOV. 12<sup>TH</sup>

PRESENTED ON ZOOM:  
[HTTPS://TINYURL.COM/9NRNVEUR](https://tinyurl.com/9nrnveur)

## Dr. Pratima Hebbar

Dr. Hebbar is an Assistant Research Professor at the Department of Mathematics at Duke University. She received her Ph.D. at the University of Maryland, College Park in 2019. Her research work is in the field of Probability, Partial Differential Equations and Dynamical Systems.

### Title: Limit theorems for branching diffusion processes

Abstract: We describe the behavior of branching diffusion processes in periodic media. For a super-critical branching process, we distinguish two types of behavior for the normalized number of particles in a bounded domain, depending on the distance of the domain from the region where the bulk of the particles is located. At distances that grow linearly in time, we observe intermittency (i.e., the  $k$ -th moment dominates the  $k$ -th power of the first moment for some  $k$ ), while, at distances that grow sub-linearly in time, we show that all the moments converge.



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