

COMBINATORICS  
SEMINAR

*Asymptotic distribution for the birthday problem with multiple  
coincidences*

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**Abstract:** This talk is about joint work with Richard Arratia and Joe Kilian on a version of the birthday problem. We study the random variable  $\mathbf{B}(c, n)$ , which counts the number of balls that must be thrown into  $n$  equally-sized bins in order to obtain  $c$  collisions. We determine the limiting distribution for  $(\mathbf{B}(c, n))^2/(2n)$  where  $c$  is a function of  $n$  that is  $o(\sqrt{n})$ , among other results. The basis for this result is a coupling.

Friday, February 22, 2013, 4:00 pm  
Mathematics and Science Center: W303

MATHEMATICS AND COMPUTER SCIENCE  
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