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**Samuel Robert Kolins\*** ([skolins@math.cornell.edu](mailto:skolins@math.cornell.edu)), Department of Mathematics, 301  
Malott Hall, Cornell University, Ithaca, NY 14853-4201. *f-Vectors of Triangulated Balls*.

In this talk we will look at the problem of determining the possible  $f$ -vectors of homology balls. This problem has previously been solved for balls of dimension four or less and Billera and Lee conjectured a characterization for higher dimensions. We will present a new method for showing that certain vectors can not be the  $f$ -vector of a homology ball. As a consequence of this result, we disprove the conjectured characterization of Billera and Lee. We will also mention a constructive result for balls with certain prescribed  $f$ -vectors and use this to discuss new possible characterizations of the  $f$ -vectors of five dimensional homology balls. (Received February 01, 2010)