

1086-AF-1542      **Amy N. Langville\*** ([langvillea@cofc.edu](mailto:langvillea@cofc.edu)), 175 Calhoun St-RSS 339, Charleston, SC 29401.  
*Ranking with Optimization Techniques.*

This talk presents a rating method that, given information on the pairwise comparisons of  $n$  items, minimizes the number of inconsistencies in the ranking of those items. The Minimum Violations Ranking (MVR) Method uses a binary linear integer program (BILP) to do this. We were able to prove conditions when the relaxed linear program (LP) gives an optimal solution to the original BILP. In addition, the LP solution gives information about ties and sensitivities in the ranking. (Received September 23, 2012)