1096-60-2553 **Sajjad Z. Meymand*** (sajjadzm@vt.edu), Mechanical Engineering Department, Virginia Tech, Blacksburg, VA 24060, and **Mittu Pannala** and **John B. Ferris**. *Predicting the Outcome of a Soccer Championship.*

A model for predicting the outcome of a soccer tournament is proposed based on the FIFA ratings and also the attacking/defensive strengths introduced from past results for each team. To this end, the probability of goals scored is estimated as a Poisson distribution. The mean of this Poisson distribution will vary according to the quality of the team. Two Poisson log-linear models are developed based on past FIFA official rating values and attacking and defensive strengths of teams. An important parameter considered in this paper is the weighting factor, h, which accounts for the relative importance of the FIFA ratings or the attacking/defensive strengths. The weighting factor played an interesting role in determining the goals scored. FIFA world cup 2010 is simulated as a case study. Better predictions are made when both the factors are taken into consideration. Considering the attacking/defensive strength in addition to the FIFA ratings would bring a flexibility of updating the strengths after each stage of the tournament which would better predict the champion. The method introduced here can be generalized to consider other factors like quality-of-coaching/coach, quality of individual players etc., and hence improving the predictability. (Received September 17, 2013)