



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_15919
Title of the Manuscript:	Evaluation of Total Antioxidant Capacity (TAS) by Using Fuzzy Logic
Type of the Article	Original research papers

PART 2:

FINAL EVALUATOR’S comments on revised paper (if any)	Authors’ response to final evaluator’s comments
It is important to note limitations of the study. A fuzzy logic model using age, systolic and diastolic blood pressures may be too simplistic as there are many factors which contribute to total antioxidant capacity. This may have contributed the varying magnitudes of the R^2 values in the fuzzy models of the model and test data.	I knew we could add more variables rather than just using age, diastolic and systolic blood pressures. On the other hand, size and structures our data limit our model. For example, if we have 3 inputs (using Gauss membership function and dividing two subsets in the fuzzy model) and 1 output then number of unknown parameters is $8+32=40$. On the other hand, if we add one more input into fuzzy model, number of total unknown parameters became $16+80=96$. We have just 140 model and 32 test data. It is too difficult to get correct result using same data and 4 inputs and one output fuzzy model. I examined effect of number of subsets of input values in my Ph. D. thesis. My studies showed that If degree of freedom, the difference between number of total data and unknown parameters, is high, we could get better results than lower. If we add fourth input variables in to the fuzzy model, degree of freedom is getting so small that we cannot get suitable results. This could be inferred from my results. I also asked the most important factors affecting to Total Antioxidant Capacity (TAS) to Dr. Sezen, he advised me to use age, systolic and diastolic blood pressures to estimate. The data I used were also measured 6 or 7 years ago. One important issue is that many factors were measured from patients but each factors for every patient could not be measured regularly. Therefore, I had to choose the most important factors and factors that be measured on most of the patients. However, we are planning to expand this study in the future by measuring more patient records.