

## **Application of intuitionistic Fuzzy multisets in medical diagnosis**

<sup>1</sup>*Ibrahim Yusuf Kakangi, <sup>1</sup>Yohanna Tella, <sup>1</sup>Muhammad Kabir Dauda,*

<sup>2</sup>*Shamsuddeen Habibu*

<sup>1</sup>*Department of Mathematical Sciences, Kaduna State University, Kaduna,  
Nigeria*

*yusufkakangi@gmail.com*

*yot2002@gmail.com*

*mkefika@gmail.com*

<sup>2</sup>*Department of Mathematics, Federal College of Education (Technical) Gusau,  
Zamfara State, Nigeria*

*Shamsuddeenhabeeb@gmail.com*

**Abstract:** In this paper, an overview of the concept of intuitionistic Fuzzy Multisets is presented. Various operations on Fuzzy set, Intuitionistic Fuzzy set, Fuzzy Multisets, Intuitionistic Fuzzy Multiset (IFMS) were discussed. Fuzzy Multisets has wide applications in mathematics, computer science and related areas. This research focused on the real life application of IFMS. Different patients are examined, data are collected on various signs and symptoms of finite number of diseases, to ascertain the exact disease in which the patient is suffering from, Euclidean distance formula is used to analyze the data. And finally, the result from the hospital diagnosis is compared with the proposed research finding on these perspective, the result from IFMS turns out to be accurate, efficient and valid.

**Keywords:** Fuzzy set, Fuzzy multiset, intuitionistic Fuzzy set, intuitionistic Fuzzy multiset, Euclidean distance formula