



## **CLUSTER HEAD ELECTION MECHANISM-BASED ON FUZZY LOGIC (CHEF) WITH TDMA IN WSN**

<sup>1</sup> G.Vijayalakshmi , <sup>1</sup> M.Anto Bennet, <sup>2</sup> P.Shenbagavalli <sup>2</sup> M.Vijayalakshmi <sup>2</sup> S.Saranya

<sup>1</sup> Faculty of Electronics and Communication Department, vel tech, Chennai, India.

<sup>2</sup> UG Students of Electronics and Communication Department, vel tech , Chennai, India.

\* Email: [bennetmab@gmail.com](mailto:bennetmab@gmail.com)

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*Abstract- Wireless sensor networks (WSN) are being used for huge range of applications where the traditional infrastructure based network is mostly infeasible. The most challenging aspect of WSN is that they are energy resource-constrained and that energy cannot be replenish. the wireless sensor network of power limited sensing devices called sensor deployed in a region to sense various types physical information from the environment, when these sensors sense and transmit data to other sensors present in the network, even the cluster head is elected according to check their residual energy considerable amount of energy will drain automatically to overcome this drawback by considering the protocol a fuzzy logic approach is used to elect the cluster head based on three descriptors-energy, centrality & distance and second CH is elected according to TDMA to overcome the data lost during energy drain occur in the CH .NS-2 simulation shows that proposed protocol provides higher energy efficiency. This paper proposes the mechanism or device is capable of utilizing its own system of control simply called as self-configurable clustering mechanism to detect the disordered CHs and replace them with other nodes. And results have been derived from simulator ns-2 to show the better performance.*

**Index terms: WSN; CH; fuzzy logic; TDMA; NS-2 simulator; base station.**