



**Introducing a clustering hybrid algorithm by using genetic meta- innovative algorithms and ant colony for reducing energy consumption in wireless sensor networks**

**Adnan Nasri\***

**Department of Computer Engineering, Sahneh Branch, Islamic Azad University, Sahneh, Iran**

**\* Corresponding Author. Email: [adnan.nasri@gmail.com](mailto:adnan.nasri@gmail.com)**

**Abstract:**

A wireless sensor network is a system of many sensors nodes that distributed in Environment main function of sensor nodes is gathering information from their environment as one of main reason of nod's energy consumption is data transmitting and wireless information transmitting ability has direct relationship with distance, direct information submit from each nod to main station as long distance of nods from main stations leads to more energy consumption in nodes. So, those designs which shorten nods distance to main stations can decrease energy consumption in them and increase wireless sensor network life- span. In this article we try to optimize cluster's choice in K- means algorithm by combining genetic algorithms and ant colonies and results shows that reducing energy consumption has direct relationship with increasing life- span.

**Keywords:** wireless sensor network, clustering, genetic algorithm, ant colony algorithm, energy – efficiency.