

CLUSTER BASED ROUTING BY USING MFO META-HEURISTIC ALGORITHM*

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Abstract: This study presents a new routing protocol for WSNs called a cluster-based routing protocol inspired by the Meta-Heuristic Moth-Flame Algorithm, which is used in various applications such as predicting the weather, remote healthcare, and military information exchange. Protocol's primary objective is to increase the longevity of the network by focus on sensor networks' power consumption problem. The protocol is inspired by the Meta-Heuristic Moth-Flame Algorithm, which is an enhancement technique that is based on the attitude of moths towards a light source. The Moth-Flame Algorithm has been shown to be efficient in finding optimal solutions in WSNs. The proposed protocol uses unbalanced clustering techniques to prevent the formation of energy holes, which can lead to the early death of nodes and data transfer issues. Unbalanced clustering involves calculating the cluster size depending on how far away each cluster is from the sink. If a cluster is located near to the sink, it will be smaller, and if it is farther away, it will be bigger and this helps to prevent the formation of energy holes. The proposed protocol is compared to a Particle Swarm Algorithm, which is another commonly used optimization technique in WSNs. The Particle Swarm Algorithm is based on the behavior of a swarm of birds or fish. In the algorithm, each particle stands in for a potential answer and the swarm navigates the search area to locate the best answer. The results of the evaluation show that our method inspired by the meta-heuristic Moth-Flame Algorithm improves energy consumption and network longevity significantly when compared to the PSO Algorithm and this suggests that our proposed protocol is an effective for this parameter in WSNs.

Keywords: WSN, Meta-Heuristic Algorithm's, Clustering Routing Protocol's, Energy Consumption

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CERTIFICATE OF ATTENDANCE

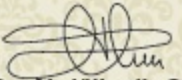
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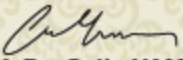
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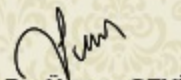
The person(s) concerned with the above information on the study participated in our congress by making a VERBAL presentation. We thank them for their contribution; we wish them continued success in their future scientific lives.

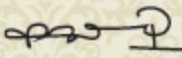

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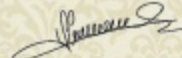

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