Wireless sensor network (WSN) is a tiny sensor device about a cubic size having sensors and small battery, which enables applications that connect the physical world with pervasive networks. These sensor devices do not only have the ability to communicate information across the sensor network, but also to cooperate in performing more complex tasks, like signal processing, data aggregation and compression in the network rather than out of the network.
Various routing protocols have been designed and developed for Wireless Sensor Networks because the routing in wireless sensor network is distinguished from other networks. They face various challenges. Sensor nodes are strongly energy and storage constrained and failure rate of sensor node is very high. While sending data to the sink node, some routing mechanisms which consider all these parameters, are needed to extend life of the network. 

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Along with some energy efficient technique for routing in WSN, Genetic algorithm based approach and Ant Colony Optimization approach for energy efficient routing is discussed in this paper. Genetic algorithm is a particular class of evolutionary algorithm that uses techniques inspired by evolutionary biology such as crossover, mutation, selection, and crossover. Both techniques are biological inspired.

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**Index Terms**

Computer Science

Wireless

**Key words**

Genetic Algorithm

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routing in wireless sensor network