

# **ANT - APHID ROUTING ALGORITHM: A NEW TRUST BASED NATURE-INSPIRED ROUTING ALGORITHM**

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## **ABSTRACT**

Mobile Ad-hoc Network (MANET) is a wireless communication network which does not rely on a pre-existing infrastructure or any centralized management. Security is a major concern in Mobile Ad hoc Network (MANET) because each node has to work cooperatively. This leads MANET to different forms of attacks from malicious nodes. Routing protocols are more vulnerable to various forms of attacks because any node can compromise the routing protocol functionality by disrupting the route discovery process. MANETs are vulnerable to various attacks from malicious node, the network works well only if the nodes are trustworthy and behave co-operatively. This paper presents a Bio-inspired solution to evaluate trustworthiness of the nodes, which is based on Ant-Aphid mutualism. This on-demand trust-based routing protocol for MANET is termed as Ant-Aphid based Routing for MANET to establish Security (ARMS).

**KEYWORDS:** Ant Colony, Bio-Inspired, MANET, Secure Routing, Trust