

Seminar Title	: Efficient Ground Area Coverage using UAV Network
Speaker	: Sipra Swain (Rollno : 519cs1006)
Supervisor	: Prof. Pabitra Mohan Khilar
Venue	: Convention Hall
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Abstract	: Unmanned aerial vehicles (UAVs) have gained popularity recently. They collectively form an ad hoc network called flying ad hoc networks (FANETs). Compared to other terrestrial ad hoc networks, FANET has some unique features that attract users more these days. It used in most applications based on data acquisition, such as search and rescue operations, forest fire detection and monitoring, crop management, area mapping, ground target detection, and road traffic monitoring. Also, they have been used as a relay network with other ad hoc networks to make a mission faster and more flexible. In order for FANET to meet the requirements of a wide variety of applications, the primary requirement is to maximize the coverage of a particular ground region of interest by a group of UAVs. The aforementioned coverage operation can only produce a better result if the following tasks are successfully executed: 1) finding a suitable set of waypoints for the movement of UAVs 2) designing a path to cover all the waypoints while avoiding collision with obstacles 3) data routing approach to transmit the collected information from UAVs to the GCS 4) fault diagnosis approach to identify the erroneous or faulty data. So, this dissertation focuses on the performance enhancement of an area coverage operation by investigating the above-mentioned tasks.