

Embedded wireless motion detector device on conventional insect trap for analysis purpose

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Universiti Teknologi MARA researchers have developed a prototype insect trap that utilizes motion sensor and wireless technology to detect insect and transmit data to the researcher at the base station located away from the study area.

Tropical countries have vast areas of tropical rain forests where many insects' species live and where entomologists continue to discover new species of insects.

The [insect population](#) is also important to the agricultural ecosystem involving insects in the food chain and pollination processes. Thus, the nature studies of the insects nature and breeding aspects are important.

The most common practice used to study them is by trapping insects in a specific area where they are counted, labelled and recorded. Apart from being a tedious, time consuming process, there are also many species of insects which cannot be manually collected and counted due to its large population. Furthermore, it is difficult to observe insect activity during the night. Generally, the researchers will collect the trap in the morning and work out details of the night's activity.

To overcome this problem, Universiti Teknologi MARA researchers have developed a prototype insect trap that utilizes [motion sensor](#) and [wireless technology](#) to detect insect and transmit data to the researcher at the [base station](#) located away from the study area.

The combined light trap and infrared motion sensor detects obstacles in front of the sensor. The results were then compared to the traditional insect trapping method and existing insect traps equipped with wireless motion sensor.

By using the ZigBee network, the results were easily transmitted wirelessly to different locations within a radius of 10 meters without any difficulty. However, the sensor did not detect smaller insects. Therefore, this system is only suitable for medium and large sized [insects](#).

Provided by Universiti Teknologi MARA (UiTM)

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