

Nanosensors for agricultural pest management

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Abstract

About 20-40% of crop yields are lost due to plant pests every year. In particular, *Helicoverpa armigera* (Hubner) and *Bactrocera oleae* pests are known to infect more than 150 crops across the world. A recent approach for the effective insect pest detection can be achieved using Nanosensors. Nanosensors are nanoscale devices that are used to detect certain species of pests. Artificial Intelligence in agriculture has brought an agriculture revolution by improving the crop yield. In this line we have developed a silicon dioxide-based microelectro-mechanical system (MEMS) sensor for the selective pest female sex pheromones detection of *Helicoverpa armigera* and *Bactrocera oleae*. The products developed are easy, cost-efficient, reusable, and eco-friendly. These systems are resourceful to farmers for the early detection of pests and preventive measures can be taken for crop protection, and in turn overcome reduction in the food production..

Biography:

Farah JEMILI received the Engineer degree in Computer Science in 2002 and the Ph.D degree in 2010. She is currently Assistant Professor at Higher Institute of Computer Science and Telecom of Hammam Sousse (ISITCOM), University of Sousse, Tunisia. She is a senior Researcher at MARS Laboratory (ISITCOM –Tunisia). Her research interests include Artificial Intelligence, Cyber Security, Big Data Analysis, Cloud Computing and Distributed Systems. She served as reviewer for many international conferences and journals. She has many publications; 3 book chapters, 4 journal publications and more than 15 conference papers.

Citation: Deepa Bhagat; Nanosensors for agricultural pest management | International Webinar on Materials Science and Nanotechnology | February 25, 2021