

IIT Kanpur develops LiDAR-based intelligent sprayer for smarter, sustainable orchard farming



RESEARCHERS from IIT Kanpur, in collaboration with SimDaaS Autonomy Pvt. Ltd and AV Agritech, has developed a first-of-its-kind LiDAR-based intelligent sprayer technology for orchard farming. The intelligent sprayer, with day & night

capability, employs advanced LiDAR technology to scan trees ensuring precision in chemical application and optimising resource utilisation. The system is equipped with an integrated GPS-enabled mobile app that provides real-time updates on sprayed areas, agrochemical consumption, and device performance.

Additionally, its user-friendly design, featuring waterproof connectors and an easy plug-and-play setup, ensures a smooth adoption process for farmers. The system also addresses common challenges faced by farmers, such as preventing speed overruns and lane skipping. Alerts generated by the system notify users of such issues, enhancing efficiency and reliability.

Source: IIT Kanpur Press Release

A drone that can walk, hop and jump for take-off



Alain Herzog CC BY SA

TAKING inspiration from perching birds like ravens and crows, researchers from the Swiss Federal Technology Institute of Lausanne (EPFL) have built a drone RAVEN (Robotic Avian-inspired Vehicle for multiple ENvironments) that can walk, hop, and jump into flight with the aid of birdlike legs. For better access for deliveries or disaster relief, this drone's unique design allows it to walk, traverse gaps in terrain, and even jump up onto an elevated surface 26 centimetres high. The research was published in *Nature*.

Source: IIT Delhi News

Measure your blood pressure using a smartphone



IN an innovative way to measure blood pressure, researchers from the University of California San Diego use a phone's native camera, vibration motor and motion sensor. The technique works by measuring the patient's finger pressure when applied to the screen of a vibrating phone. Using this the oscillometric blood pressure is then determined using standard calculations based on pulse measurements from the blood flow under the applied pressure. The research was published in *Scientific Reports*.

Source: University of California San Diego News

A reusable sponge to remove pollutants from water



RESEARCHERS from the Northwestern University have developed a specialised reusable sponge to remove pollutants from contaminated water. The sponge is coated with nanoparticles that have an affinity for pollutants. Addressing the limitations of currently available solutions the reusable sponge can collect metals like zinc, copper, lead, and phosphate, from water and microplastics and oil from lakes and oceans. According to researchers, these valuable pollutants could easily be released by exposing them to different pH's and the sponge could be used further many times. The research was published in the *ACS journal*.

Source: Northwestern University Press Release