

Special Issue on  
**Wireless Sensor Networks in Agriculture  
and Forestry**

# CALL FOR PAPERS

In recent years, there has been a deep advance of Wireless Sensor Networks (WSNs), both in academia and in the industrial environment. A WSN consists of a large number of sensor nodes that are networked to monitor a particular area so that data can be acquired, processed, stored, and collected. Many of the potential applications of the WSN are in the fields of health, industry, military applications, smart homes, and cities, among others.

WSN technologies have become an important tool in precision agriculture and forestry with relatively low cost of the devices; they can provide information for quality assurance, for example, alerting farmers at the onset of frost damage, implementing irrigation and pesticide control, and providing better microclimate awareness. Due to the great degree of heterogeneity of the soils, the crops, and the climate in agriculture, there is a need for greater spatial resolution of the data requiring a large number of sensor nodes.

To enable the widespread deployment of WSN in agriculture and forestry, one of the major obstacles is the contradiction between the various functionalities required by the applications and the limited power supply to the sensor nodes. Another obstacle to take into account is the economic cost of the network. This issue is of great importance for improving the sustainability and performance and increasing the practice implementation of WSN in agriculture and forestry.

Potential topics include but are not limited to the following:

- ▶ Use of WSN in precision agriculture
- ▶ WSN for irrigation control
- ▶ WSN for plant diseases control
- ▶ WSN in crop field monitoring
- ▶ WSN in greenhouses
- ▶ Use of WSN for forest fire detection
- ▶ Design considerations in low-cost WSN nodes
- ▶ Energy efficient WSN

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