# DATA SCIENCE APPLICATIONS IN AGRICULTURE & PLANT SCIENCE'

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## ABSTRACT

The global population is expected to reach nearly 10 billion by 2050, which will limit land and water availability and require a 70% increase in agricultural production, with some chains ensuring food security. Therefore, agricultural research needs to be smarter and more modern so that sustainability and safety in agriculture can be achieved in our agricultural practices. This is particularly important for India because the majority of India's population is directly dependent on agriculture and labor unions as their main source of income.

Data science- Artificial Intelligence (AI) is being used in multiple fields including agriculture and other fields. The use of artificial intelligence in agriculture and plant research will help identify the best bacteria for growth, identify candidate genes for stress, and identify QTL for quality improvement and community stability. This makes it useful for farmers to monitor the crop cycle and make informed decisions for many purposes, including water management, plant health, pesticides and diseases, fertilization, and crop management. These results will help intervene in time and resource allocation by understanding the business. Data science-powered agriculture and plant science can help create new technologies to overcome the challenges that agricultural businesses currently face and compete with traditional methods.

Improving crops through big data analysis and AI/ML/DL. AI-powered irrigation, pesticides, planting, soil amendment and other applications, and AI-based farm harvest robots/drone Agriculture. Machine Learning applications in Plant and Agriculture genomics, Artificial Intelligence-driven ecology and plant biotechnology for weed/stress resistance and management, and data science in agricultural genomics. The papers related to

- AI-supported agriculture, irrigation, pesticides, seeds, tillage, etc.
- Optimizing the use of water, pesticides and harvesters
- Skilled talents can be used for pest control, pesticide use, Ariel Research and image efficiency
- Pest control identification and timely prediction of infestation
- Early disease prediction and protection of plants, poultry, fish and animals
- Prediction of crop loss due to disease and disease resistance. Abiotic stresses
- Precision agriculture and forecasting

are invited in this Symposia.

**Keywords:** Artificial Intelligence; ML-Machine Learning; DL-Deep Learning.