

## On-Site Computer System for Air Quality Research

**Track Code:** 65522

**Categories:**

- Agriculture
- Computer Technology

**Keywords:**

- Agriculture
- Air Quality
- Algorithm
- Big Data
- Computer Technology
- Data Processing
- Measurements

Purdue University researchers have developed an on-site computer system (OSCS) that offers flexibility, high capacity, user-friendliness, and high level quality assurance/quality control for agricultural air quality (AAQ) research in the field and laboratory. Currently, 29 OSCSs have been built in 13 states for AAQ studies, handling more than 3 billion data points.

This system adapted a set of data processing algorithms, as well as some novel features, including all-data display and dynamic runtime configuration (DDRC), digital output DDRC, real-time sampling system monitoring and protection, global channel, traceable configuration, and post-measurement data processing. This system also integrated two standalone instruments, an Innova multi-gas analyzer and an Environics multi-port gas dilution system, which are popular in AAQ research.

**Advantages:**

- User friendly
- Flexible and reliable
- Can process large amounts of data
- Integrates popular AAQ instruments

**Potential Applications:**

- Computer technology
- Data processing
- Air quality measurement

**People:**

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**Intellectual Property:**

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