

Overview of the 2019 Air Sensor Workshop

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2019 MARAMA Air Quality Monitoring Training Workshop
November 20, 2019
Swarthmore Inn
Swarthmore, PA

Deliberating Performance Targets for Air Quality Sensors

- June 2018 – PM_{2.5} & O₃
- July 2019 – CO, SO₂, NO₂ & PM₁₀

GOAL: “Solicit individual stakeholder views related to non-regulatory performance targets for sensors that measure...in the United States”.

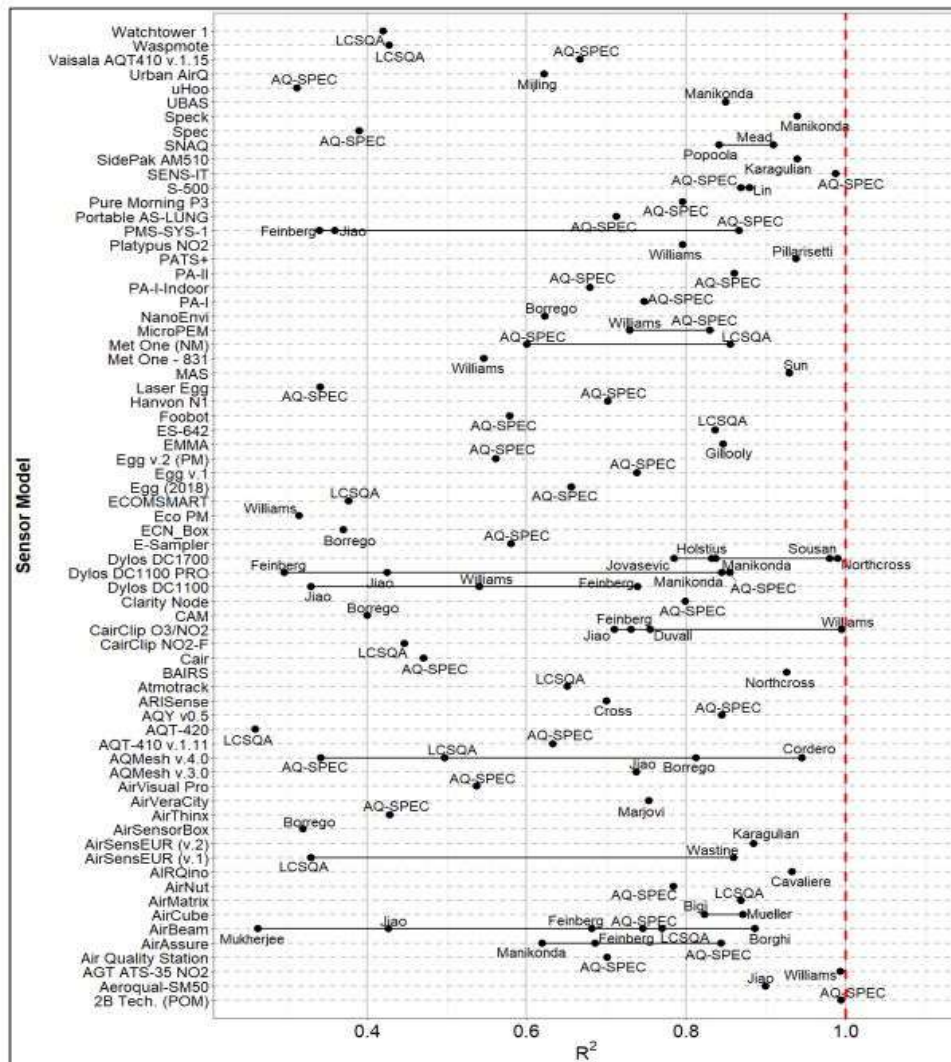
What was included in the 2018/19 presentations?

- Literature review of studies for lab and field test evaluations of CO, SO₂, NO₂ & PM₁₀ sensors
- Results of field deployments from academia & state/local agencies plus an international point of view on sensors

HERDING CATS:

“A futile attempt to control that which is inherently uncontrollable.”





Karagulian, et al, 2019

European Commission Report: “There are only a few available commercial sensor systems that are consistent with all issues mentioned above that show a good agreement with reference measurements (coefficient of determination, R^2 , higher than 0.75 and slope of regression line within 1 ± 0.5) and total price lower than 3 k€. The conclusion from this market analysis is that the only sensor system satisfying the requirements of multipollutant, availability of raw data, transparency of all applied data treatment, availability of evaluation of the performance of sensor system in literature with high coefficient of determination (>0.85) has been found to be the XXXXXXXXXX.”

Karagulian, et al., 2019.

What does the graph infer?

- Some monitors perform very well compared to the FRM/FEM
- Other monitors perform miserably compared to the FRM/FEM
- Many monitors have a wide range of performance outcomes
- Tiered v. binary could prove helpful

HELP?!?

What to Expect in the Next Couple of Years?

- EPA **Guidelines** for O₃ and PM_{2.5} sensors by the end of 2020?!?
- SO₂, NO₂, CO & PM₁₀ by the end of 2021?!?
- European guidelines by the end of 2020?!?

2020 Air Sensors International Conference

Hosted jointly by EPA and CARB
May 12 – 14, 2020 Pasadena, CA

- Policy and Air Quality Management
- Performance Targets
- Exposure and Health
- Source Characterization and Identification
- Data
- Innovative Technologies and Applications
- Use of Networked Sensors
- Funding Opportunities
- Youth Education and Development
- Indoor Air Quality
- Deploying Air Quality Sensors By Communities
- Communication and Interpretation of AQ Data

<https://asic.aqrc.ucdavis.edu>