

Journal Articles

Schill S., McEwan R.S., Moffet R., Marrero J., MacDonald C., and Winegar E. (2022) Real-world application of open-path UV-DOAS, TDL, and FT-IR spectroscopy for air quality monitoring at industrial facilities. *Spectroscopy*, 37(S11), 18–22, (STI-7736), November 1. Available at <https://www.spectroscopyonline.com/view/real-world-application-of-open-path-uv-doas-tdl-and-ft-ir-spectroscopy-for-air-quality-monitoring-at-industrial-facilities>.

Meeting Presentations and Conference Proceedings

Moffet R.C., Marrero J.E., McEwan R.S., MacDonald C., and Roberts P.T. (2022) Minimum detection limit calculations for open-path measurements. Presentation given at the *ASTM Workshop on Ambient Air Fenceline Monitoring, Seattle, WA, April 28*, by Sonoma Technology, Petaluma, CA. STI-7716.

Instrumentation Expertise

- FTIR, UV-DOAS, UV Fluorescence,
- Continuous Emissions Measurements (CEMs), process control
- OP, ambient, and portable point analyzers

Career Instrumentation Experience

Gaseous

- Single gas tunable diode lasers
- Thermo i, C and TLE models 49, 42, and 43
- Various fluorescence/PMT SO₂, NO_x
- Various CO/CO₂ analyzers and transfer/primary standards
- Luminex RA-915M mercury analyzer (vapor)
- TO-15 Summa sampling
- Various NDIR/filter correlation

Particulate and Visibility

- PTFE filter sampling
- Thermo PM: TEOM analyzer, ADR1500 nephelometer
- Hi-Vol PM
- Gerber PVM-100 forward scatter LWC & PVM analyzer

Meteorological

- Vaisala, Climatronics, and RM Young meteorological sensors, including anemometers, 3-D anemometers, humidity, wetness, TB rain gauges, and temperature sensors
- RTD and thermocouple temperature devices/translators
- LiCor photodiode (insolation) sensors

Support Instrumentation

- Mass flow control devices, filter sampling hardware, pressure sensors, and sample control hardware
- MFC devices, heated wire, and pressure
- Campbell, H₂NS, other data logging hardware, and various custom PLCs
- Communications hardware from TTL to Modbus
- Permeation dynamic calibrators, nitrogen generators
- Turbine flow sensors

Specialty Services

- Tekran 2537X, 1130 mercury analyzers and calibrator
- Beta attenuation density analyzers
- Handheld PM (cyclonic) and multi-gas sensors (e.g., Rae, RKI, Tisch)
- Various diagnostic equipment, oscilloscopes, and DMMs