



ENERGY INSTITUTE

Colorado State University



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METEC_{H4}

Methane Emissions Technology Evaluation Center

June 28, 2018 Update

Summer! Despite the heat, METEC is working on a number of exciting tests and projects. As you may have heard, CSU is preparing for the end of the MONITOR program by creating a center to continue the METEC mission:

CANGET

Center for Advanced Natural Gas Emissions Technology

CANGET will focus on the *path to equivalency* for natural gas leak detection and quantification technologies. The center will bring together developers, O&G operators, and regulators to develop protocols, testing, and deployment methodologies.

Even as CANGET is forming, CSU is kicking off two initial activities that fit into the CANGET charter:

- *Methane Solution Roundup*
- *OGI Equivalency Testing*

See descriptions of both activities below.

We hope you will join us for a tour, testing, or training soon. As always, we love to talk about the site and value input, comments and suggestions from our energy community.

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MONITOR Testing. More than half of the MONITOR full-solution teams have now completed *Round 2* testing. As a reminder, R2 testing simulates emission profiles which are more representative of oil and gas facilities than those included in R1 testing. The tests include intermittent emissions, more realistic emission points and multiple simultaneous leaks.



Bridger's system to perform basin surveys.



CU Boulder's Longpath system for long-duration facility monitoring.

CSU is also offering non-MONITOR solution developers to test following the R2 protocol in preparation for the *Methane Solution Roundup*. Contact METEC ASAP if you're interested in either the testing or the results!



EPA Study on OGI Baseline Efficacy. METEC has been working with the EPA and Jacobs to establish baseline efficacy of optical gas imaging (OGI) in detecting emissions at natural gas facilities. We have completed 9 days of testing and have funding from EPA/Jacobs and the Environmental Partnership to complete 21 more days of testing – an exciting cooperation between industry and government to complete an important job. International commitment is also strong, with an initial commitment from Canadian regulators to participate in the testing.

We cannot complete this work without you! To date, 4 operators with 6 LDAR teams, 10 regulatory teams from states and EPA, 1 commercial detection team, 1 academic team, and 1 OGI manufacturer team have participated in the study. Each participant brings their own cameras, protocols and personnel. METEC provides the emissions, locations and rates. We have 15 days currently blocked on our schedule: 30 July – 3 August, 20 – 24 August, 10 – 12 September. Please contact METEC to schedule. More information can be found here: [OGI Testing](#).

CANGET Establishment. The *Center for Advanced Natural Gas Emissions Technology* will host a *core program* aimed at standardizing the evaluation of leak detection and quantification technologies, including development of testing protocols, hosting test periods at METEC and field sites, and building acceptance across the industrial, regulatory, and environmental community. Core programs will be funded by a nominal membership fee, but the center will also support funding mechanisms for in-depth research on topics of mutual interest. A more complete description of CANGET can be downloaded here: [CANGET](#).

GTI Methane Connections Workshop. The CH₄ Connections conference will again be cohosted by Colorado State University and the Gas Technology Institute and held in Fort Collins this year. Details on the conference and a pre-conference OGI training workshop can be found here: [CH₄ Connections](#).

Methane Solutions Roundup. The nascent CANGET center will be hosting a Methane Solutions Roundup the half day immediately following the CH₄ Connections Conference. The Roundup aims to bring industry operators together with up and coming technologies for meaningful interactions on methane detection and quantification solutions. More information can be found here for solution providers: [Roundup - Solutions](#), and here for operators: [Roundup - Operators](#).

METEC Test Products and Scheduling. METEC is now offering three distinct testing products – both individually and with the Roundup:

- Multi-pad survey testing for survey methods
- Multi-week install for permanently installed methods
- Ad-hoc testing where clients control site activities

We are also developing a data product that will allow permanently installed solutions to remain operating at METEC for many months, and a testing product for detection-only methods.

Membership options for CANGET include METEC test time; see the CANGET brochure for details. A fast and inexpensive option to complete R2 testing is to sign up for the Roundup and/or CANGET: Act fast to reserve a testing slot prior to the September Roundup meeting.

EDF / Stanford Mobile Methane Challenge. METEC hosted two weeks of testing for the EDF/Stanford Mobile Methane Challenge. Seven groups tested their technology's ability to detect and quantify methane emissions. It was exciting to have multiple teams with drones and vehicles



Multiple drones and ground systems operating onsite tested coordination of the site and maneuvering skill of operators.



Arvind – keeping time.

roaming the site in pursuit of METEC’s cleverly camouflaged leak points. Thanks to Arvind Ravikumar with Stanford and to all the teams that participated for choosing METEC for this important testing.

IAB Face to Face Meeting.

The next meeting of the Industry Advisory Board is scheduled for 18 July, on the Wednesday following ARPA-

E’s MONITOR final Annual Meeting in Fort Collins. We’ll update the IAB on METEC progress and discuss CANGET in detail. A big thank you to the 13 members of the IAB for your active participation.

Staff Exchange with Total. Clay Bell is excited to be able to accept an opportunity to learn from and help colleagues at Total in Pau, France, operate their own methane emissions test facility, Transverse Anomaly Detection Infrastructure (TADI). Clay will bring a wealth of experience from METEC and will bring back to METEC all that he learns during his time in France. Total’s test site compliments METEC in many ways, as it focuses on higher volume leaks, some larger equipment, and different detection technologies. We’ll miss him, but we are fortunate to have Mike McGuire to pick up the slack, with Tim Vaughn assisting as necessary. Also, since Clay recently got married, offer double congratulations when you next see him!



Clay and Keavy – congratulations!

METEC hosted Yvan Faucher from TADI in March. The goal of Yvan’s visit was to work with METEC staff to understand the test site design and capabilities. During Yvan’s visit he also observed the OGI testing and was able to learn to use an OGI camera himself.

Operator Testing and Training.

O&G operators, regulatory groups, and equipment vendors may find METEC useful for training LDAR teams or as a workshop site for internal meetings. Schedule with Kristine or Mike. Note that some **CANGET membership options include time at METE**, which companies can use for training, meetings or solution testing.



Yvan using an OGI camera.

Prior to testing, all users must have a CDA and Site Access Agreement in place.

Equipment Donations. METEC is grateful to all the support it has received in the form of equipment donations to furnish the site. **We still need header piping for the compressor station!** If you have 8-12”, gathering station pipe and valves available, we’d like to hear from you.

We plan to continuously update the site with new and exciting features, so if you know of equipment being retired or scrapped, please contact us!

Upcoming Events and Opportunities

MONITOR Annual Meeting

- 17 July

Industry Advisory Board Meeting

- 18 July

EPA OGI Testing Time Slots

- 30 July – 3 August, 20 – 24 August, 10 – 12 September
- Contact Kristine (Kristine.bennett@colostate.edu)

CH4 Connections

- Pre-Meeting Workshop 24 September 2018
- Conference 25 – 26 September 2018
- [CH4 Connections](#)

Methane Solutions Roundup

- Testing dates through early September
- 26 September 2018
- Contact Kristine (Kristine.bennett@colostate.edu)

COGCC Request for information on Instrument Monitoring Methods for Flowlines Integrity

- Qualified instrument suppliers should submit information here: DNR_COGCC_IMM@state.co.us
- More information here: [COGCC Call for Information](#)

METEC Key Staffing and Responsibilities.

Dan Zimmerle – Director and PI for METEC

Kristine Bennett – Project coordination & communication

Clay Bell – Overall design and construction oversight

Mike McGuire – Field site manager

Tim Vaughn – Measurement systems oversight

Contact Us. The METEC team would love to hear from you.

Email: METEC@colostate.edu

Website: <https://energy.colostate.edu/areas-of-expertise/methane/metec-at-colorado-state-university/>