

# CHARTING A PATH TO SUCCESS BY 2030

2023 Program

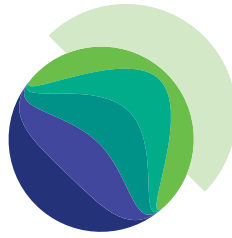
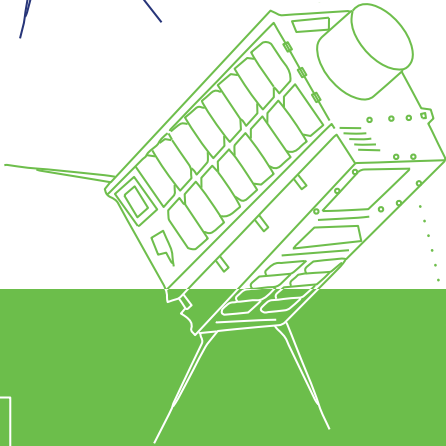
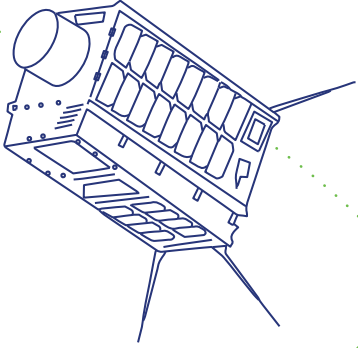


**GTI ENERGY**



**October 4-5, 2023**

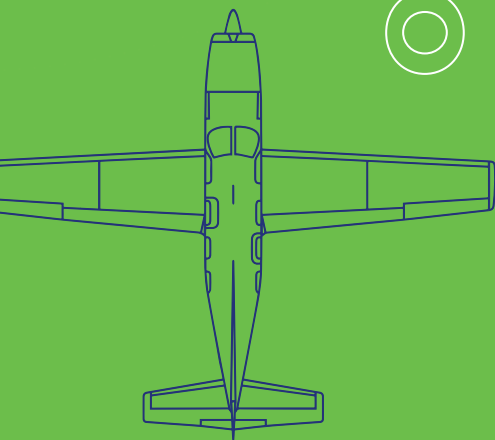
Colorado State University's Lory Student Center  
Fort Collins, Colorado



# GHGSAT

ONSHORE

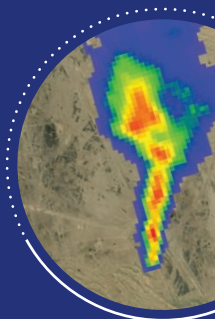
OFFSHORE



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With leading emission monitoring solutions, we deliver actionable data critical to environmental, production and financial decision-making.

Achieve your emissions reduction targets faster and empower your team with proven technology and unparalleled coverage.



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# Welcome

## GTI Energy and the Energy Institute at Colorado State University are proud to host the 10th annual CH4 Connections Conference, October 4-5, 2023.

### CHARTING A PATH TO SUCCESS BY 2030

National focus has escalated around characterizing and managing methane emissions. Better measurement of methane emissions is an essential first step but CH4 Connections will highlight the importance of measurement data being understandable and usable by the operators that are going to have to mitigate those emissions. The conference will focus on how to effectively decarbonize our energy systems and the role of methane emission mitigation in these efforts.

The conference promotes the open exchange of ideas from leading thought leaders, academic researchers, industry experts, regulators, policymakers, and environmental advocates. Speakers will address current research on methane emissions, technologies to detect and mitigate emissions, policy and regulatory frameworks, and business implications and opportunities.

Join us in a conversation targeted at reducing methane emissions and carbon impacts through innovative technology solutions and methane emissions policy. We're happy you're here!



**Erin Blanton**  
Vice President  
Zero Emissions Systems  
GTI Energy



**Dr. Bryan Willson**  
Executive Director  
Energy Institute  
Colorado State University



### Install the CH4 Connections App

- Receive alerts on current and upcoming sessions
- See sponsors' company bios and links
- Find speaker bios



Download the **Cvent Events** app to your Android or iPhone from your App Store

### Be social!

Share your CH4 Connections experience with photos and posts using **#CH4Connections** and tag us on LinkedIn and Twitter!

# Agenda

Day 1  
**WED 10/4**

Please check the conference app for  
the most up-to-date agenda  
(all times in U.S. Mountain Time Zone)

7:00 AM–5:30 PM

## Registration and Information Desk



11:00 AM – Noon

## Lunch, Networking, and Exhibits

Noon– 12:10 PM

## Opening Remarks:

**Erin Blanton**, Vice President, Zero Emissions Systems, GTI Energy

**Bryan Willson**, Executive Director, Energy Institute, Colorado State University

## SECTION 1 – The New Regulatory Landscape

12:10 –12:40 PM

## Fireside Chat

**Ryan Peay**, Deputy Assistant Secretary, U.S. Department of Energy

**Moderator: Bryan Willson**, Executive Director, Energy Institute, Colorado State University

12:40 – 1:30 PM

## Panel Session #1: Federal Regulation Overview

**Moderator: Hon Xing Wong**, Program Manager, Zero Emissions Systems, GTI Energy

### Panelists:

**Tom Curry**, Director of Policy and Analysis, Office of Resource Sustainability, U.S. Department of Energy

**Megan Hays**, Managing Director, Head of Sustainable Investment & Engagement, Kimmeridge

**Lesley Feldman**, Research and Analysis Manager, Methane Pollution Prevention, Clean Air Task Force



1:30–1:50 PM

## Break, Networking, Exhibits

1:50-2:20 PM

## Keynote:

## Reducing Methane Emissions: Ambition in Action

**Paula Gant**, President & CEO, GTI Energy

**Moderator: Shannon Katcher**, Vice President, Digital Innovation, GTI Energy



2:20-3:10pm

## Sponsor Showcase Rapid-Fire Session



3:10-3:30pm

## Break, Networking, Exhibits

## SECTION 2 – Overcoming Technological Barriers

3:30-4:20 PM

## Panel Session #3: Diversity of Technology Solutions

**Moderator: Jarrod Bullen**, Principal Engineer, Zero Emissions Systems, GTI Energy

### Panelists:

**Jared Ciferno**, Program Manager, Methane Mitigation Technologies, U.S. Department of Energy, Fossil Energy Carbon Management

**Thomas Fox**, President, Highwood Emissions

**Cristina Lopez Lazaro**, Methane Emissions and Renewable Gases Process Research Engineer, RICE (GRTgaz)



4:20-4:30 PM

## Gold Sponsor Technical Presentation

**Pete Roos**, Bridger Photonics

4:30-5:20 PM

## Panel Session #4: Operationalizing Multiple Technology Solutions Together

**Moderator: Zachary Weller**, Institute Scientist, Digital Innovations, GTI Energy

### Panelists:

**Richard J. Trieste, Jr (Rick)**, Department Manager, Research, Development & Demonstration, Consolidated Edison Company of NY (Con Ed)

**Felipe Cardoso Saldana**, Methane Emission Researcher, Exxon Mobil

**Marie-France Benassy**, HSE Research Program Manager, TotalEnergies



5:20-5:30PM

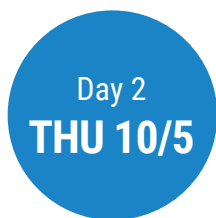
### Gold Sponsor Technical Presentation

*Jason Gu*, Sensit



5:30-7:00 PM

### Networking Reception and Exhibits (large ballroom)



7:30 AM – 4:00PM

### Registration and information desk (exhibits remain until conference adjourned)

7:30 – 9:00 AM

### DOE Breakfast Meeting (in main ballroom) – Federal Methane Emission Awards (IM4)

**Opening Remarks:** *Amanda Harmon*, Senior Manager, Zero Emissions Systems, GTI Energy

#### Discussion leads:

*David S. Ebert*, Associate Vice President for Research and Partnerships, Director, Data Institute for Societal Challenges, hGallogly Chair Professor of ECE and CS, University of Oklahoma

*Dan Zimmerle*, Director, Methane Emissions Program / METEC Director, Remote and Distributed Energy Center (RADEC), Energy Institute | Colorado State University

*David Allen*, Professor, Norbert Dittrich-Welch Chair in Chemical Engineering, UT Austin

7:30 – 8:30 AM

### Breakfast served in large ballroom to all participants

8:30 – 8:40 AM

### Opening Remarks and Recap of Day 1

*Ron Snedic*, Senior Vice President, Corporate Development, GTI Energy

*Bryan Willson*, Executive Director, Energy Institute, Colorado State University

8:40 – 9:10 AM

### Keynote: Hydrogen Emissions and Learnings from Methane Emissions and Technologies

*Michael Webber*, Josey Centennial Professor in Energy Resources, Mechanical Engineering, UT Austin (with Q&A)

**Moderator:** *Kristine Wiley*, Vice President, Low Carbon Energy Solutions, GTI Energy



6:30-8:30 PM

### Speaker/Sponsor Dinner (“Never No Summer” ballroom, same floor as conference)

9:10 – 10:00 AM

### Panel Session #5 Methane Technology Applications to Hydrogen Emissions

**Moderator:** *Chris Moore*, Program Manager, Zero Emissions Systems, GTI Energy

#### Panelists:

*Ruishu F. Wright*, Research Scientist / Technical Portfolio Lead, U.S. DOE National Energy Technology Laboratory (NETL)

*Jin Zhang PhD*, Senior Engineer – PE, Southern California Gas Company (SoCalGas)



10:00-10:10 AM

### Gold Sponsor Technical Presentation

*Sheldon Owen & Andrew Speck*, SLB



10:10 – 10:30 AM

### Break, Networking, Exhibits

#### SECTION 3 – Global Perspectives and Other Sectors

10:30 – 11:20 AM

### Panel Session #6: Energy Justice and CH4

**Moderator:** *Joe von Fischer*, Professor, Department of Biology, Colorado State University

#### Panelists:

*Cynthia Medina*, Environmental Justice Analyst, Community Benefits, Low Carbon Energy Solutions, GTI Energy

*Stefanie Rucker*, Head of the Office of Innovations in Planning and Air Quality Data, Colorado Department of Public Health and Environment, Air Pollution Control Division

*Stephanie A. Malin, Ph.D.*, Associate Professor, Department of Sociology, Colorado State University, Adjunct Associate Professor, Colorado School of Public Health

# Agenda

Day 2  
**THU 10/5**  
CONTINUED

Please check the conference app for  
the most up-to-date agenda  
(all times in U.S. Mountain Time Zone)

11:20 – 12:00 PM

## Session #7: REMEDY (Reducing Emissions of Methane Every Day of the Year)

**Moderator:** *Bryan Willson*, Executive Director, Energy Institute, Colorado State University

**Overview of program:** *Jack Lewnard*, Program Director, ARPA-E



12:00- 12:10pm

### Gold Sponsor Technical Presentation

*Sean MacMullin*, Picarro

12:10 – 1:10 PM

## Lunch for all participants

1:10 – 2:00 PM

## Panel Session #7: Global Perspective on Methane Emissions

**Moderator:** *James Taff-Clay*, Associate Engineer, Zero Emissions Systems, GTI Energy

### Panelists:

*Brian Redick*, Associate, Climate Investment

*Jessica Shumlich*, CEO, Highwood Emissions

*Robert L. Kleinberg*, Senior Research Scholar, Columbia University Center on Global Energy Policy



2:00-2:10pm

### Gold Sponsor Technical Presentation

*Brody Wight*, GHGSat

2:10 – 3:00 PM

## Panel Session #8: Mitigating CH4 Emissions in Other Sectors

**Moderator:** *Dan Zimmerle*, Director, Methane Emissions Program / METEC, Director, Remote and Distributed Energy Center (RADEC), Energy Institute | Colorado State University

### Panelists:

*Marina Slijepcevic*, Scientist, Zero Emissions Systems, GTI Energy

*Kim Stackhouse-Lawson*, Professor Animal Sciences Department, Director of CSU AgNext, Colorado State University

*Evan Sherwin*, Research Scientist, Sustainable Energy & Environmental Systems Department, Lawrence Berkeley National Laboratory



3:00 – 3:20 PM

### Break, Networking, Exhibits

3:20 – 4:20 PM

## Panel Session #9: Sponsor Showcase Rapid-Fire Session

**Moderator:** *Bryan Willson*, Executive Director, Energy Institute, Colorado State University

4:20 – 4:30 PM

## Wrap-up

*Ron Snedic*, Senior Vice President, Corporate Development, GTI Energy

4:30 PM

## Adjourn & Exhibitors Tear Down

4:30 PM

## METEC tour

### For more information, contact:



#### Kevin Trim

Senior Manager, Education & Events  
GTI Energy  
ktrim@gti.energy



#### Maury Dobbie

Executive Director  
Colorado Energy Research Collaboratory  
Maury.Dobbie@colostate.edu

# Meet Our Speakers



## David Allen

**Professor, Norbert Dittrich-Welch Chair in Chemical Engineering, UT Austin**

Dr. David Allen is the author of seven books and over 250 papers, primarily in the areas of urban air quality, the engineering of sustainable systems, and the development of materials for

environmental and engineering education. Dr. Allen has been a lead investigator for multiple air quality measurement studies, which have had a substantial impact on the direction of air quality policies. He directs the Air Quality Research Program for the State of Texas, and he is the founding Editor-in-Chief of the American Chemical Society's journal ACS Sustainable Chemistry & Engineering. He has developed environmental educational materials for engineering curricula and for the University's core curriculum, as well as engineering education materials for high school students. He led the development of a year-long high school engineering course, Engineer Your World, which is used in hundreds of high schools nationwide.



## Marie-France Bénassy

**HSE Research Program Manager, TotalEnergies**

Marie-France Bénassy is a chemist engineer who joined TotalEnergies more than 30 years ago. She has been involved in R&D most of her career. She started with analytical chemistry and moved

on to Environment in 1997 as head of the Air Quality Laboratory of TotalEnergies, a transverse structure for the whole company dedicated to air emissions and specifically to methane emissions.

As the company evolved, she took responsibility as coordinator on Environment R&D including Air and Water. She had the opportunity to join a production site (TotalEnergies Fuels and Additives solutions) for six years in 2010 as head of the Control laboratory and formulation division.

As the company created the One R&D division, she joined this corporate direction as HSE transverse program manager.

In 2020, following the creation of the One Tech branch, Marie-France joined the Sustainability platform within the R&D direction: a transverse platform for all R&D program or businesses to support sustainable ways of developing TotalEnergies activities. The platform gathers more than 50 people, anticipating our needs in Safety, Air, Water, Soil, Biodiversity, Circularity or integrated assessment of our potential impacts. Following the commitments of TotalEnergies, Methane emissions stays at the heart of the R&D programs to develop the forefront techniques to measure and mitigate them.



## Erin Blanton

**Vice President Zero Emissions Systems, GTI Energy**

Erin Blanton is the Vice President, Zero Emissions Systems at GTI Energy. Erin Blanton leads GTI Energy's methane emissions mitigation solutions strategy and focuses on the role of natural gas

infrastructure in facilitating energy transitions towards a net-zero future. Erin joined GTI Energy from Columbia University's Center on Global Energy Policy, where she led the Natural Gas Research Initiative and the Center's ESG research. She has extensive experience advising financial professionals on energy markets and investments. Erin holds a Master's degree from Columbia University's School of International and Public Affairs and a B.A. in economics from Cornell University.



## Jarrod Bullen

**Principal Engineer, Zero Emissions Systems, GTI Energy**

Jarrod Bullen is a Principal Engineer at GTI Energy coordinating technical efforts associated with industry projects and serving as the new GTI Energy Distribution Segment Lead of

Veritas. He has over seven years of experience in projects related to distribution infrastructure and methane emissions. In that time, Jarrod conducted extensive field campaigns measuring fugitive emissions along the supply chain as well as evaluating detection and quantification technologies. He holds a BS and MS in Mechanical Engineering from the University of Mississippi.



## Heather Carmichael

**Director, Strategic Climate Policy, Government of Alberta**

For over a decade, Heather has worked on the development of greenhouse gas reduction policies for the Government of Alberta and has been deeply involved in oil and gas sector

methane management since 2014. Heather leads the development and implementation of Alberta's methane management policy framework, which includes integration of multiple policy tools based on multi-stakeholder engagement, as well as on-going collaboration and negotiation with the Government of Canada, British Columbia, and Saskatchewan. As Director of Strategic Climate Policy, Heather leads a team of policy and technical experts focused on a range of topics in addition to methane,

# Meet Our Speakers

including bioenergy, the legislated cap on oil sands emissions, building and home energy efficiency, and supporting integration across various strategic policies and initiatives touching on greenhouse gas emissions and the management of Alberta's natural and energy resources. Heather holds a master's in environmental studies from York University.



**Jared Ciferno**  
**Program Manager, Methane Mitigation Technologies, U.S. Department of Energy, Fossil Energy Carbon Management**

Jared Ciferno is a senior program manager within the Methane Mitigation Technologies division of the U.S. DOE Fossil Energy Carbon Management Office.

In this capacity, Mr. Ciferno manages an R&D portfolio focused on developing accurate, cost effective an efficient technology solutions and best practices to identify, measure, monitor, and eliminate methane emissions across the natural gas value chain—production through utilization. Methane mitigation research and development efforts include advanced materials of pipeline construction, monitoring sensors, data management systems, and more efficient and flexible compressor stations. Program efforts for methane emissions quantification focus on developing technologies to detect, locate, and measure methane emissions. The program is also working on creating innovative solutions to reduce associated gas flaring and venting, including alternative uses for the “stranded” natural gas through modular, catalytic technologies designed to convert the gas into higher-value solid and liquid products.

Mr. Ciferno has 20 years of diversified engineering and management experience that spans a broad spectrum of technology areas including: electric power generation, advanced greenhouse gas control, process control, fossil energy conversion processes, water management, alternative fuels and simulation/systems analysis. Mr. Ciferno holds B.S. and M.S. degrees in chemical engineering from the University of Pittsburgh.



**James Taff-Clay**  
**Associate Engineer, Zero Emissions Systems, GTI Energy**

James Taff-Clay is currently an associate engineer in the Zero Emissions Systems Team working on projects related to methane emission abatement and mitigation across the natural gas supply chain.

He has conducted multiple field campaigns investigating fugitive methane emissions and evaluating measurement devices. One of his roles includes work in the Center for Methane Research

compiling relevant information on the latest studies and articles related to methane emissions and writing synopses for CMR members. He earned his bachelor's degree from Northwestern in Mechanical Engineering and received his master's in Energy and Sustainability from the same school the following year.



**Tom Curry**  
**Director of Policy and Analysis, Office of Resource Sustainability, U.S. Department of Energy (DOE)**

Tom Curry leads the Division of Policy & Analysis in the Office of Resource Sustainability, a part of DOE's Office of Fossil Energy and Carbon Management.

The Division of Policy & Analysis develops technical, economic, and policy analyses to support the office's research and development, engagement, and natural gas regulatory work. The Division's analyses focus on methane emissions, critical minerals, hydrogen technologies, and other crosscutting efforts to support DOE's mission.

Tom has more than 20 years of experience providing business, governmental, and non-profit clients with strategic assistance on energy and environmental policy issues. He has managed the development of methane emissions intensity protocols for companies that operate in the natural gas supply chain and has extensive experience working with companies, investors, and trade associations on greenhouse gas emission inventories. Tom has worked to help companies and environmental groups identify policy drivers for advanced technologies to reduce greenhouse gas emissions, including carbon capture, utilization and storage; hydrogen; and advanced methane detection.

Before joining DOE, Tom was a Partner at ERM and was previously a Vice President at M.J. Bradley & Associates. Tom holds a Master of Science degree from the Technology and Policy Program at the Massachusetts Institute of Technology and a Bachelor of Science in Civil Engineering with a double major in Engineering and Public Policy from Carnegie Mellon University.



**David S. Ebert**  
**Associate Vice President for Research and Partnerships, Director, Data Institute for Societal Challenges, hGallogly Chair Professor of ECE and CS, University of Oklahoma**

David Ebert is currently a Gallogly Chair Professor of electrical and computer engineering, and the Director of the Data Institute for Societal Challenges. He is the recipient of the 2017 IEEE Computer Society vgTC Technical Achievement Award, member of the IEEE vgTC



Visualization Academy, an adjunct Professor of electrical and computer engineering with Purdue University, and the Director of the Visual Analytics for Command Control and Interoperability Center (VACCINE), the Visualization Science team of the Department of Homeland Security's Visual Analytics and Data Analytics Emeritus Center of Excellence. He received his Ph.D. in computer and information science from The Ohio State University, Columbus, OH, USA and performs research in visual analytics, novel visualization techniques, interactive machine learning and explainable AI, human-computer teaming, advanced predictive analytics, and procedural abstraction of complex, massive data.



**Ethan W. Emerson**  
**Research Scientist, Energy Institute at Colorado State University**

Emerson holds a Ph.D. in Chemistry from CSU where he studied the fate of anthropogenic pollutants through physical and chemical processes. Following his doctorate, he worked for a private

company designing and building instruments for atmospheric research. His current research focus is methane emissions from the oil and natural gas supply chain and test programs to evaluate the effectiveness of different systems to detect methane emissions. Within the Zimmerle, group he guides the research objectives and coordinates testing programs at the Methane Emissions Technology Evaluation Center (METEC). Prior to working with the Zimmerle group, he developed instruments for atmospheric research and has extensive experience in particle phase measurements, field campaigns, instrumentation, and data analysis.



**Lesley Feldman**  
**Research and Analysis Manager, Methane Pollution Prevention, Clean Air Task Force**

Lesley Feldman is a Research and Analysis Manager on the Methane Pollution Prevention team at Clean Air Task Force. She conducts technical analysis to

support policies that will reduce methane emissions from the oil and gas industry. She has managed the program's research on the health impacts of air pollution from oil and gas. Lesley has provided technical comments in rule-making proceedings in Colorado, New Mexico, California, and at the Federal level. Internationally, Lesley manages the Country Methane Abatement Tool (CoMAT), which helps countries estimate oil and gas methane emissions and develop strong policies. Lesley received a Masters in Public Policy from the Harvard Kennedy School. She also holds a B.A. from Haverford College in History and Economics.



**Thomas Fox**  
**President, Highwood Emissions**

Thomas Fox is Chief Innovation Officer at Highwood Emissions Management. His expertise is in methane detection and quantification technology, voluntary initiatives, measurement-informed inventories, and forecasting emissions

management strategies through simulation. At Highwood, Thomas leads product, technology, and R&D to deliver novel emissions management software and projects to industry, regulators, and innovators. He holds a PhD from University of Calgary and an MSc from McGill University.



**Paula A. Gant, PhD**  
**President and CEO, GTI Energy**

Dr. Paula Gant is President and CEO of GTI Energy, a leading technology development organization focused on designing and scaling low-carbon, low-cost energy transition solutions. She has a passion for building collaborative

teams, aligning innovation with impact, and convening diverse stakeholders to pursue solutions to consequential energy system challenges. With two decades of experience in leadership roles at the U.S. Department of Energy, American Gas Association, and Duke Energy Corporation, Dr. Gant is an established and respected thought leader in energy systems, markets, and security spaces. She is a graduate of McNeese State University in Louisiana and Auburn University in Alabama.



**Amanda Harmon**  
**Senior Manager, Zero Emissions Systems, GTI Energy**

Amanda Harmon, Senior Manager-Programs at GTI Energy's Zero Emissions System oversees the research, development, and deployment of solutions for environmental matters

including emissions and renewable energy. As a microbiologist, Ms. Harmon also has a decade's worth of experience researching pipeline integrity. Current research programs Amanda manages are the Risk, Integrity, and Environmental working group for Operations Technology Development, renewable fuels for the Low Carbon Resource Initiative, and will direct Veritas post 2023.



**Megan Hays**  
**Managing Director, Head of Sustainable Investment & Engagement, Kimmeridge**

Megan Hays is a Managing Director and Head of Sustainable Investment and Engagement at Kimmeridge. She joined Kimmeridge following 15-year career leading investor relations, strategic communications, M&A, capital markets

# Meet Our Speakers

and ESG within publicly and privately held oil and gas exploration companies. Prior to joining Kimmeridge, Ms. Hays served as the Vice President of Investor Relations at Cimarex Energy, where she led the company's \$19 billion merger with Cabot Oil & Gas. Previously, she was Vice President of Investor Relations and Public Affairs at Concho Resources, where she led investor relations in addition to developing and driving the company's ESG strategy. During Ms. Hays' tenure at Concho, she supported the company's capital markets and A&D/M&A activities, including Concho's \$9.5 billion acquisition of RSP Permian in 2018 and Concho's ultimate sale to ConocoPhillips for \$10 billion in January 2021.

Ms. Hays holds a certificate for the Executive Education for Sustainability Leadership Program from the Harvard T.H. Chan School of Public Health. She received a B.A. in Political Science (International Relations) from Texas Christian University, where she currently serves on the advisory board of the Ralph Lowe Energy Institute at the Neeley School of Business.



**Kim Stackhouse-Lawson**  
**Professor Animal Sciences**  
**Department, Director of CSU AgNext,**  
**Colorado State University**

CSU AgNext utilizes a multidisciplinary approach to advance sustainable solutions for animal agriculture. Prior to leading CSU AgNext, Kim was the

Director of Sustainability for JBS USA where she was responsible for coordinating the company's corporate sustainability program and strategy. Kim also served as the Executive Director of Global Sustainability at the National Cattlemen's Beef Association where she developed the industry's sustainability program. Kim received her PhD in Animal Science from the University of California, Davis and was a postdoctoral fellow at Kansas State University College of Veterinary Medicine Beef Cattle Institute. She was awarded as the 2018 Distinguished Young Alumni by the UC Davis College of Agriculture and Environmental Sciences. She and her husband, Spencer, live on the eastern plains of Colorado and have two sons, Weston and Callan.



**Shannon Katcher**  
**Vice President of Digital Innovation,**  
**GTI Energy**

Shannon develops a strategic approach to digital transformation and directs research efforts, product and service developments, and investment initiatives in the data services and analytics

space related to energy systems. She holds deep knowledge of connecting the industry's operational experiences and needs with research programs.

Shannon graduated from the University of Illinois, Urbana-Champaign with a B.S. in Atmospheric Science and an M.S. in GIS & Remote Sensing. She is a licensed as a GIS Professional (GISP) and a Project Management Professional (PMP).



**Robert L. Kleinberg**  
**Senior Research Scholar, Columbia**  
**University Center on Global Energy Policy**

Robert L. Kleinberg is Senior Research Scholar at the Columbia University Center on Global Energy Policy and Senior Fellow at the Boston University Institute for Global Sustainability. His principal interest

is the intersection of technology and regulation. From 1980 to 2018 Dr. Kleinberg invented geophysical instruments for Schlumberger, the premier oilfield service company. He has authored more than 200 academic and professional papers, holds 41 U.S. patents, and has testified to Congress on greenhouse gas measurement. Dr. Kleinberg is a member of the National Academy of Engineering.



**Jack Lewnard**  
**Program Director, ARPA-E**

Jack Lewnard joined DOE's ARPA-E agency as a Program Director in June 2019. His interests include energy infrastructure, low-carbon fuels, and energy processes. He is responsible for several programs at ARPA-E. The

REPAIR program seeks to rehabilitate legacy gas pipes using robots to apply novel coatings inside pipes. REUSE investigates processes to convert unrecyclable plastics to fungible liquids. REMEDY addresses abatement of methane emission from fossil energy value chains. Methane Pyrolysis focuses concurrent hydrogen and solid carbon production. FLECCS addresses carbon capture for intermittent natural gas combined cycle power plants.

Prior to joining ARPA-E, Jack was the VP of Business Development for Chesapeake Utilities' Strategic Development Group and was VP and CTO at the Gas Technology Institute. His background includes a diverse range of energy technologies.

Jack received his bachelor's degree in chemical engineering from the University of Cincinnati, and his PhD from Berkeley, also in Chemical Engineering.



### **Cristina Lopez**

**Methane Emissions and Renewable Gases Process Research Engineer, RICE (GRTgaz)**

Cristina Lopez is a Methane emissions research engineer in RICE (R&D center of GRTgaz, which is the main TSO in France). Her main activities include finding

solutions to reduce methane emissions, implying lab tests and campaigns in the field, as well as testing innovative solutions for CH4 detection. She has recently been recognized as a specialist inside of the group. She has led European projects (GERG) involving top down and bottom up technologies, and she has delivered workshops during international conferences (Methane Mitigation Summit Europe, Prospero Events). She is an energy engineer by the Technical University of Madrid, and she holds a Master research degree by Mines Paristech.



### **Cynthia Medina**

**Environmental Justice Analyst, Community Benefits, Low Carbon Energy Solutions, GTI Energy**

Cynthia Medina, an Environmental Justice Analyst at GTI Energy, currently spearheads the execution of the Diversity, Equity, Inclusion

and Accessibility Plan for three significant Methane Emissions projects. With over three years of dedicated experience in environmental justice initiatives, community relationship building, and fostering community engagement and participation within the public academic sector, Cynthia is a committed advocate for equitable change. In 2021, Cynthia was recognized with the COP26 Climate Challenge Cup - Climate Change Adaptation (November 2021) for her outstanding contributions to the Climate Justice Partnership project presented at the COP26 United Nations 2021 Climate Change Conference. She has recently earned her Master's in Public Health from the University of Illinois at Chicago. Driven by her passions for promoting health equity, food justice, and environmental justice in underserved communities, Cynthia is on a mission to create an inclusive and equitable environment for those who have traditionally been excluded.



### **Stephanie A. Malin, PhD**

**Associate Professor, Department of Sociology, Colorado State University, Adjunct Associate Professor, Colorado School of Public Health**

Stephanie A. Malin, Ph.D. is an environmental sociologist specializing in the community impacts of extraction

and energy production. Her main interests include environmental justice, environmental health, social movements, and the socio-environmental effects of market-based economies. She also examines communities building more distributive and regenerative systems. Stephanie serves as an Associate Professor in the Department of Sociology at Colorado State University, and she is an adjunct Associate Professor with the Colorado School of Public Health. Stephanie co-founded and co-directs the Center for Environmental Justice at CSU. She is an award-winning teacher of courses on environmental justice, water and society, and environmental sociology. Stephanie is the author of two books, *Building Something Better: Environmental Crises and the Promise of Community Change* (2022) with Meghan Elizabeth Kallman, and *The Price of Nuclear Power: Uranium Communities and Environmental Justice* (2015). She has published her research in journals such as *Social Problems*, *Social Forces*, *Environmental Politics*, *Journal of Rural Studies*, and *Society and Natural Resources*. Stephanie conducts public sociology and engaged scholarship, and her work can additionally be found in news outlets like *The Conversation* and *High Country News'* Writers on the Range. Her work has been supported by grants from the National Science Foundation, National Institutes of Environmental Health Sciences (part of National Institutes of Health), the American Sociological Association, the Colorado Department of Public Health & Environment, the Rural Sociological Society's Early Career Award, and the Colorado Water Center.



### **Chris Moore**

**Program Manager, Zero Emissions Systems, GTI Energy**

Dr. Chris Moore is currently a Program Manager in the Zero Emissions Systems group at GTI Energy. In his current role he leads efforts to evaluate new technologies and study methane

emissions from natural gas transmission, storage and distribution, and serves as the Principal Investigator for the GTI Energy Center for Methane Research, the technical segment lead for the Transmission and Storage segment in GTI Energy's Veritas Differentiated Gas Initiative, and the Environmental Aspects and Safety Technical Subcommittee in GTI's Low Carbon Resources Initiative. Chris's research has been published in a wide variety of scientific journals including *Nature* and the *Proceedings of the National Academies of Science*. Dr. Moore holds a BS in Chemistry from WVU Tech, an MS in Environmental Science from the University of Virginia, and a PhD in Environmental Science from the University of Maryland.



### **Ryan Peay**

**Deputy Assistant Secretary, U.S. Department of Energy**

Ryan Peay is the Deputy Assistant Secretary for Resource Sustainability in the Office of Fossil Energy and Carbon Management. He sets the strategic direction for the Office of

Resource Sustainability and administers the programs, including fossil energy research and development, engagement, analysis, budget, and natural gas regulation. Previously, Ryan was the Director of Planning and Administration for the Office of Oil and

# Meet Our Speakers

Natural Gas and was responsible for strategic planning as well as coordinating and integrating daily activities across the Office.

Prior to joining DOE, Ryan was a manager at a major consulting firm, focused on strategic planning, financial programming, and budgeting activities. From 2002 to 2007, Ryan served on active duty in the U.S. Army as a Field Artillery Officer in the 101st Airborne Division.

Ryan holds an MBA from the Darden School of Business at the University of Virginia and is a graduate of the Virginia Military Institute with a B.A. in International Studies and Political Science.



**Brian Redick**  
Associate, Climate Investment

Brian is an associate at Climate Investment, a firm that invests in capital efficient decarbonization solutions. CI was founded by members of the Oil and Gas Climate Initiative, who are 11 of the world's largest oil and gas companies.

CI is a leader in investing and scaling methane detection and measurement technologies

Brian has a background in chemical engineering (Johns Hopkins) and petroleum engineering (Texas A&M), and previously worked as a production engineer.



**Stefanie Rucker**  
Head of the Office of Innovations in Planning and Air Quality Data, Colorado Department of Public Health and Environment, Air Pollution Control Division

As the head of the Office of Innovations in Planning and Air Quality Data with the Colorado Department of Public Health and Environment, Air Pollution Control Division, Stefanie Rucker searches for creative opportunities to reduce air pollutant emissions in ways that are efficient, data-driven, and most importantly effective. She has a Master of Science degree in environmental engineering and has been with the Division since January 2008, spending the majority of that time working on oil and gas related air quality issues, permitting, and regulation. She loves talking to stakeholders and industry members about how, together, we can meet all of our air quality goals. Her biggest achievements are when she can get disparate groups to collaborate and even find consensus on the many difficult problems we face.

Stefanie has represented the Division in the development of: 1) Colorado's Storage Tank and Vapor Control System Guidelines,

2) the first ever O&G methane control requirements adopted in February 2014, 3) the upstream intensity and midstream steering committee rules adopted in December 2021, and 4) the intensity verification rule adopted in July 2023. She has been recognized for her work with a Clean Air Excellence Award from the U.S. Environmental Protection Agency and a Frank Johnson Environmental Excellence Award from the Colorado Department of Public Health and Environment.



**Richard J. Trieste, Jr (Rick)**  
Department Manager Research, Development & Demonstration, Consolidated Edison Company of NY (Con Ed)

Richard J. Trieste, Jr (Rick) is responsible for the research, development, and demonstration of new and existing technologies for gas operations. Rick earned his BEME from Manhattan College and began his career in the nuclear industry. He then joined Con Ed and proceeded to hone the theoretical, procedural, regulatory and operational knowledge to operate a gas distribution company through a multitude of supervisory, engineering and manager positions. Rick is now in his 37th year with Con Ed, and serving in his 15th position as R&D Dept Manager.



**Felipe Cardoso Saldana**  
Methane Emission Researcher, Exxon Mobil

Felipe Cardoso works as a methane emission researcher at ExxonMobil Technology and Engineering Company. In his role, he participates in research projects collaborating with universities, start-ups, industry and NGOs. He performs pilots of new methane detection technologies and works on LDAR modeling to assess the emission reductions of novel methane detection technologies. He was part of the team that submitted the first ever Alternative Means of Emission Limitation (AMEL) application to the US Environmental Protection Agency requesting the use of aerial technologies for regulatory compliance.

Before joining ExxonMobil, he completed a PhD at The University of Texas at Austin doing research on methane emissions and air pollution with a dissertation titled "Spatially, temporally and molecularly resolved models for methane emission estimation in oil and gas production basins". He attended Tec de Monterrey, in Mexico, for his B.S. degree.



**Evan Sherwin**  
**Research Scientist, Sustainable Energy & Environmental Systems department, Lawrence Berkeley National Laboratory**

Dr. Evan Sherwin is a data-informed energy policy analyst investigating the role of hydrocarbon fuels in a rapidly decarbonizing economy. Much of

his research focuses on leveraging emerging technologies and datasets to find and fix methane emissions across the oil and gas value chain. Evan is a Research Scientist in the Sustainable Energy & Environmental Systems department at Lawrence Berkeley National Laboratory. After receiving a PhD in Engineering and Public Policy and an MS in Machine Learning from Carnegie Mellon University, Evan conducted postdoctoral work studying methane emissions in Stanford University's Department of Energy Science & Engineering. Evan is the founder and chair of the Methane Emissions Technology Alliance international webinar series.



**Jessica Shumlich**  
**CEO, Highwood Emissions**

Jessica Shumlich is the CEO and co-founder of Highwood Emissions Management with over 15 years of experience in energy companies, governments, tech developers, and startups. She has a background as a

drilling engineer and supervisor for Shell and ended her tenure developing the GHG reporting plans and strategy for the global portfolio. She was the Program Manager for Energy Efficiency Alberta and Global Technical Director for Carbon Connect International, overseeing the design and delivery of the incentive programs that resulted in millions of GHG reductions. Jessica's expertise spans across Canada, the US, the Netherlands, the UK, and Germany.



**Marina Slijepcevic**  
**Scientist, Zero Emissions Systems, GTI Energy**

Marina Slijepcevic contributes to projects that focus on decarbonization of the natural gas industry and has particularly supported renewable natural gas and air quality related research.

She has several years of environmental experience, both in the compliance and research sectors. Additionally, she interned with Argonne National Laboratory's Environmental Science division and holds a bachelor's degree in Geophysics from Calstate Northridge.



**Ron Snedic**  
**Senior Vice President, Corporate Development, GTI Energy**

As the Senior VP of Corporate Development at GTI Energy, Ron leads the effort to expand GTI Energy's customer base and increase revenues

from technology-based product and service offerings. Snedic is responsible for GTI Energy's M&A activities and serves as President of GTI International, a holding company for GTI Energy's for-profit entities including Frontier Energy and SunGas Renewables. Snedic also oversees GTI Energy's marketing communications team, the human resources department, and a wide range of education and training programs. He is the President of Operations Technology Development, NFP and Utilization Technology Development, NFP. Both companies focus on the development of new technology for the natural gas industry. Snedic joined GTI Energy as the Regional Manager of Customer Relations for the Southern Gas Association in April 1997. Prior to GTI Energy, Ron held various positions at Nicor Gas Distribution and UtiliCorp United. Snedic earned a B.S. in marketing and an M.B.A. from Northern Illinois University, and has completed the Stanford Executive Program at Stanford University's Graduate School of Business.



**Michael Webber**  
**Josey Centennial Professor in Energy Resources, Mechanical Engineering, UT Austin**

Dr. Michael E. Webber is the Josey Centennial Professor in Energy Resources in the department of mechanical engineering at the University

of Texas at Austin and CTO of Energy Impact Partners, a \$3 billion cleantech venture fund. From September 2018 to August 2021, Webber was based in Paris, France where he served as the Chief Science and Technology Officer at ENGIE, a global energy & infrastructure services company with 170,000 employees worldwide. Webber's expertise spans research and education at the convergence of engineering, policy, and commercialization on topics related to innovation, energy, and the environment. His book *Power Trip: the Story of Energy* was published in 2019 by Basic Books with an award-winning 6-part companion series that aired on PBS, Amazon Prime and AppleTV starting Earth Day 2020. The series had more than 7000 broadcasts in the United States and has been distributed in dozens of countries, ultimately reaching millions of viewers. He was selected as a Fellow of ASME (the American Society of Mechanical Engineers) and as a member of the 4th class of the Presidential Leadership Scholars, which is a leadership training program organized by Presidents George W. Bush and William J. Clinton. Webber has authored four full-length general interest books, created two interactive textbooks, written more than 500 publications, and been awarded 6 patents. He serves on the advisory board for Scientific American and GTI Energy (an industry consortium formerly known as the Gas Technology Institute). A successful entrepreneur, Webber was one of three founders in 2015 for an educational technology startup, DISCO Learning Media, which was acquired in 2018. Webber holds a B.S. and B.A. from UT Austin, and M.S. and Ph.D. in mechanical engineering from Stanford University. He was honored as an American Fellow of the German Marshall Fund and an AT&T Industrial Ecology Fellow on four separate occasions by the University of Texas for exceptional teaching.

# Meet Our Speakers



**Zachary Weller**  
**Institute Scientist, Digital Innovations,  
GTI Energy**

Zach Weller is a data scientist at GTI Energy where he uses statistics and data science to address applied problems in the energy space. He has experience developing data analysis methods and

statistical models to estimate methane emissions. Zach leads efforts around uncertainty quantification and sample planning for Veritas, working with sponsors to develop and improve methane emissions estimates. He holds a PhD in statistics from Colorado State University.



**Kristine Wiley**  
**Vice President, Low Carbon Energy  
Solutions, GTI Energy**

Kristine Wiley is Vice President of Low Carbon Energy Solutions at GTI Energy. She leads a collaborative team of technical experts that are developing strategies and integrated

technology solutions that leverage existing energy infrastructure and transform how we use low carbon energy in residential, commercial, industrial, power and mobility applications to enable deep decarbonization.

Kristine has also led key strategic initiatives such as the creation of GTI Energy's Hydrogen Technology Center which brings together diverse partnerships for advancing clean hydrogen generation, transport, storage, and utilization at scale to enable a hydrogen economy. Her career spans two decades at GTI Energy where she has managed and directed research programs ranging from improving the safety and reliability of gas infrastructure operations to advancing low carbon technology pathways such as methane emissions mitigation and renewable natural gas.

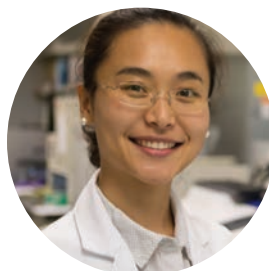
Kristine holds a BA in Biological Sciences from the University of Chicago as well as an MBA from the University of Chicago Booth School of Business.



**Bryan Willson**  
**Executive Director, Energy Institute,  
Colorado State University**

Dr. Bryan Willson is Executive Director of the Energy Institute at Colorado State University, where he also occupies the Bryan Willson Presidential Chair in Energy Innovation and serves as

a Professor of Mechanical Engineering. CSU's Energy Institute comprises over 200 faculty members working in energy and works closely with the Colorado energy startup community to help grow clean energy companies. The Energy Institute is headquartered at CSU's Powerhouse Energy Campus, a 100,000 sq ft research facility that also houses over 15 early stage energy companies; it's work on cleantech commercialization has been honored by the Economist, Scientific American, the Smithsonian Institution, university technology transfer associations, and the governments of Denmark, Spain, and China. Dr. Willson served as a Program Director at ARPA-E (Advanced Research Projects Agency – Energy), from 2012-2016 and continued as a consultant / advisor to the agency until early 2019. He has worked for over 30 years to develop and deploy large-scale technology solutions related to energy, air quality, and human health. As an entrepreneur, Dr. Willson is co-founder of Envirofit International, Solix BioSystems, Factor(e) Ventures and Xpower. His research laboratory, the Engines & Energy Conversion Laboratory, has made important contributions in many areas, including: internal combustion engines, advanced vehicles, oil & gas production technology, advanced electrical grids, advanced biofuels, energy access for the developing world, and advanced building technologies. Dr. Willson is a Fellow of the Society of Automotive Engineers and has worked in over 40 countries.



**Ruishu F. Wright**  
**Research Scientist / Technical Portfolio  
Lead, U.S. DOE National Energy  
Technology Laboratory (NETL)**

Dr. Ruishu F. Wright is a Research Scientist / Technical Portfolio Lead with U.S. DOE National Energy Technology Laboratory (NETL). She serves as Technical Portfolio Lead for Natural Gas

Infrastructure Program and Hydrogen Infrastructure Project. She is the Principal Investigator for multiple projects and coordinates R&D efforts of an interdisciplinary team to develop real-time sensors and functional sensitive materials to monitor and mitigate gas leaks of natural gas and hydrogen pipelines and enable subsurface monitoring in hydrogen-natural gas storage wells. The sensor technologies include fiber optic based sensors, passive wireless sensors, and electrochemical sensors. She has extensive experience in design and development of functional materials (e.g. metallic thin films, metal oxides, nanomaterials) to enable various sensor platforms. She also has strong expertise in corrosion and materials degradation in pipelines and in deep wells with extreme conditions, such as high-temperature, high-pressure (HTHP) environments. Dr. Wright holds a Ph.D. in Energy and Mineral Engineering and Electrochemical Science and Engineering from the Pennsylvania State University. She earned her M.S. in Chemical

Engineering and Technology and B.S. in Metallurgical Science and Engineering. She has published more than 50 technical articles and given more than 40 presentations at conferences and holds ten pending and awarded U.S. patents on sensor technologies.



**Jin Zhang, PhD**  
**Senior Engineer – PE, Southern California Gas Company (SoCalGas)**

Dr. Jin Zhang is a Professional Mechanical Engineer licensed in California. Currently, she is a Senior Engineer in the Hydrogen Blending Strategy Team at SoCalGas. She has

been mainly supporting hydrogen-natural gas blending research projects and managing engineering activities leading to the successful development and execution of hydrogen blending demonstration projects. She is an active member of Center for Hydrogen Safety (CHS) Natural Gas-Hydrogen Blending Working Group, leading the effort of developing Best Safety Practices of Gas Detection. Prior to joining SoCalGas, Jin spent 8 years in oil and gas industry focusing on hydrogen production via steam-methane reforming and 7 years in the energy sector focusing on improving energy efficiency of large-scale refrigeration system.

Jin holds a Bachelor and Master in Energy Engineering from Shanghai Jiaotong University in Shanghai, China, and a PhD in Mechanical Engineering from Louisiana State University.



**Hon Xing Wong**  
**Program Manager, Zero Emissions Systems, GTI Energy**

Hon Xing Wong is a Program Manager at GTI Energy in the Zero Emissions Systems team and Deputy Director of Veritas GTI Energy's Methane Emissions Measurement and Verification Initiative.

He was previously a researcher at Columbia University's Center on Global Energy Policy where he supported the Natural Gas Research Initiative and researched climate and energy transition risks, and electrification of the transportation sector. He also consulted for New York City's Metropolitan Transportation Authority (MTA) on electric bus projects. Previously, he was a chartered chemical engineer at BP and held various engineering and site-operations roles Angola, Egypt, and the North Sea, UK. He holds a Master of Public Administration from Columbia University's School of International and Public Affairs and a Master of Engineering in chemical and environmental engineering from Nottingham University.



**Joe von Fischer**  
**Professor, Department of Biology, Colorado State University**

Joe von Fischer is a professor in the Department of Biology who studies how the function of ecosystems is structured by the interactions among humans, plants, the soil and soil microbes, with

particular focus on how these factors influence the emissions of greenhouse gases like methane. Joe's research seeks to characterize the physical and biological diversity of systems that give rise to micro-sites with exceptional influence on overall system function. Joe's lab maintains two primary research areas. One is the study of how biological diversity among the bacteria that consume methane within soils leads to spatial and temporal patterns in soil methane fluxes. The other is in collaboration with the Environmental Defense Fund to use Google Streetview Cars to measure the leakage rate of natural gas from urban distribution systems around the country.



**Daniel Zimmerle**  
**Director, Methane Emissions Program / METEC, Director, Remote and Distributed Energy Center (RADEC), Energy Institute | Colorado State University**

Daniel Zimmerle is the Director of the Methane Emissions Program

in the Energy Institute at Colorado State University. Zimmerle was a principal investigator on seven major studies of methane emissions in the natural gas supply chain, including studies of upstream, midstream, and distribution systems at a national and/or regional scale, and leads the Methane Emissions Technology Evaluation Center, one of the largest test facilities for natural gas leak detection solutions. Zimmerle's group conducts research on natural gas emissions including studies of equipment and pipeline emissions, field studies, and fundamental investigations of commonly utilized methods. Recent work has branched into agricultural and waste emissions areas.

Additionally, Zimmerle also works on energy access and development in rural communities in the developing world and the integration of distributed generation into power systems.

An 'accidental academic,' Zimmerle's pre-CSU experience is all industrial. He served as the Chief Operating Officer at Spirae, Inc. and 20 years at Hewlett Packard and Agilent Technologies including experience as both a division general manager and R&D manager, leading organizations in multiple businesses and organizations that included personnel in the US, Ireland, Singapore and other countries.

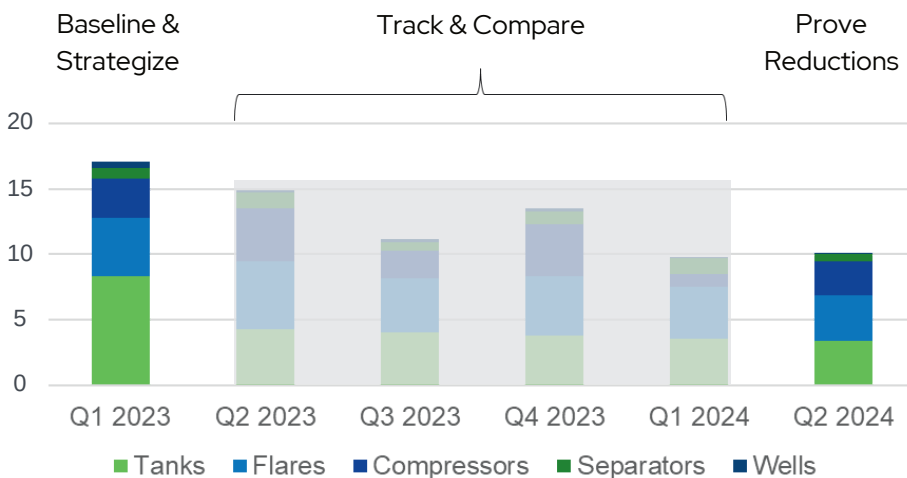
He holds a BSME and MSME from North Dakota State University.

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- ✓ Picture/Video- the application support pictures & video
- ✓ Survey Logs- automatically stored to the tablet/smartphone

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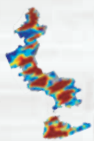
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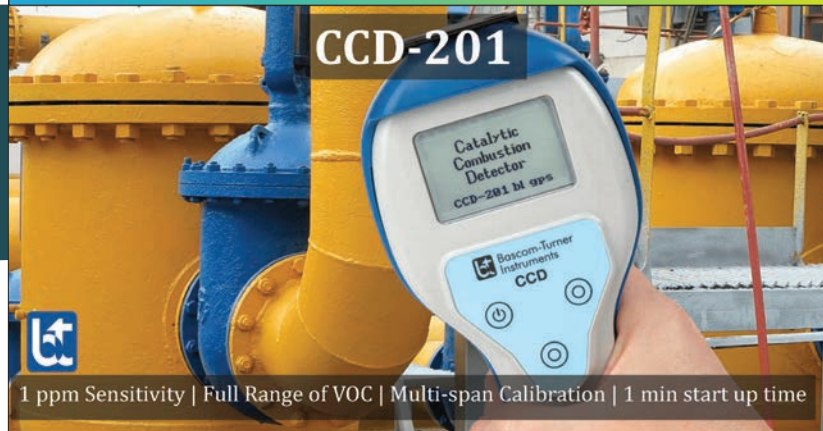


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TDLAS LEL Level  
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Laser Raman Multi-Gas Analyzer

Laser Raman Multi-Gas Calorific Value Analysis System



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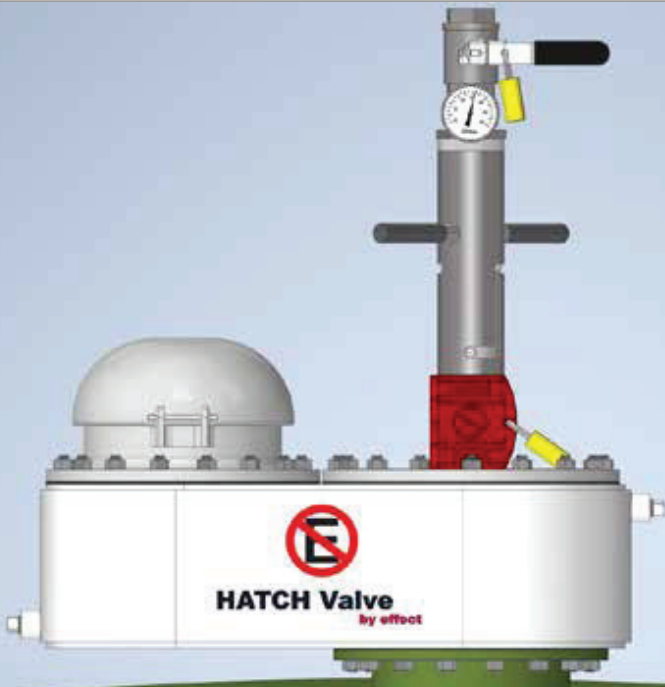
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Inventory select: Site 2101 (June 12, 2021 - April 11, 2023)

Inventory viewer: Summary (Viewing)

Manage inventory (View)

General data: Source defaults (View), Asset defaults (View)

Inventory summary: Dashboard > Site 2101

Timeline: Nov, 2022, Dec, 2022, Jan, 2023, Feb, 2023, Mar, 2023

Assets: 2 Sources: 19

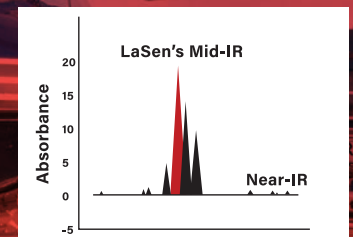
Name	Type	Sources
Gas well 1	Well site	5
Meter station 1	Meter station	8
Boiler 1	Boiler heater	
Compressor 1	Centrifugal compressor	



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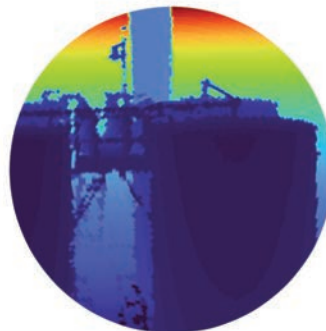
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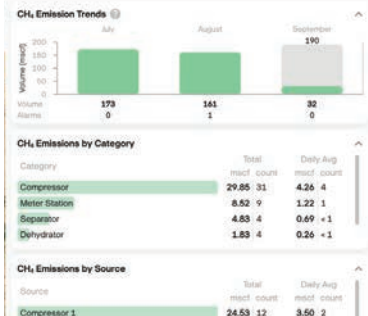
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## Quantify the invisible

Automate the detection of methane emissions - down to the equipment group level.

- ✓ Enable your certification reporting: MiQ, OGMP 2.0 (Level 4/5), Alt-FEMP, Colorado AIMM
- ✓ Gain year-round insights into 100% of your facility's methane outputs
- ✓ Optimize LDAR operations and safety, eliminate costly false alarms
- ✓ Best in class quantification



Stay ahead. With SeekOps, you don't just measure. You lead.

Get in touch at [seekops.com](http://seekops.com)



SIERRA-OLYMPIA TECHNOLOGIES INC.

BOOTH #29



# VENTUS OGI

CUTTING-EDGE OPTICAL GAS IMAGING



640 x 512 Resolution  
Component for Integrators  
Gas Enhancement Mode

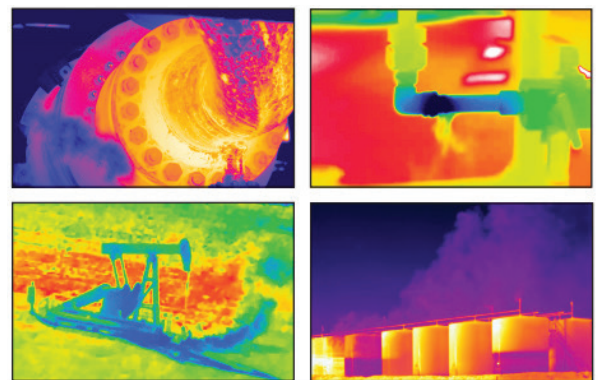
541.716.0015  
[SierraOlympia.com](http://SierraOlympia.com)



## The Leader in Methane Mitigation Technology since 2005

FLIR OGI technology is used to mitigate methane, hydrocarbon, and VOC emissions by allowing users to quickly scan processing equipment, flares, piping, and other oil and gas sector assets.

As the original advanced technology for methane mitigation, FLIR cameras allow operators to scan 9x faster and inspect more equipment than before while remaining at safe distances.



With FLIR OGI systems, leak detection professionals can:



- Improve safety and emission mitigation
- Enhance Productivity and ROI
- Enhance situational awareness of emission event
- Quantify emission severity

Scan the QR code to watch our video

# Gas Detection & Monitoring Systems

Portable and Fixed Optical Gas Imaging Solutions:

- Leak Detection and Quantification
- Affordable, Reliable, and Future-Proof



[viperimaging.com](http://viperimaging.com)

## Methane Airborne Detection Solution

for the Oil & Gas Industry

Visit us at booth #30

TELOPS

### Additional Exhibitors



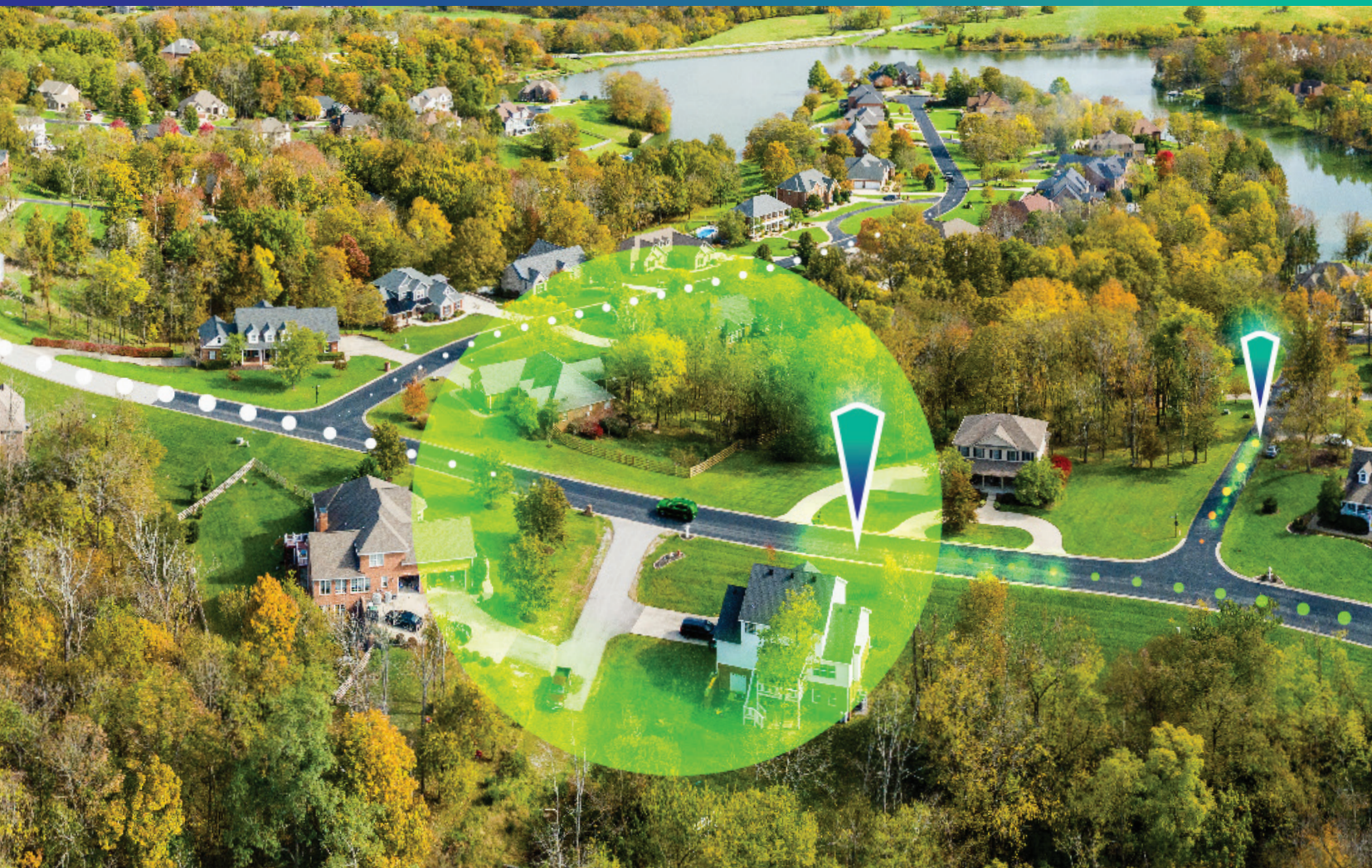
A PROJECT CANARY COMPANY



# Your Path to Net Zero

The global leader in the measurement, quantification,  
and reduction of methane emissions.

Emissions Measurement - Emissions Reduction - Pipe Replacement - Advanced Leak Survey



Stop by **BOOTH #7** for data-driven solutions that  
reduce emissions and enhance infrastructure safety.

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