Erin E. Tullos

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**Education**

B.A. Chemistry Texas A&M University 2002

Ph.D. Chemistry Texas A&M University 2007

# Training

ExxonMobil Advanced Skills Milestone (Environmental Management, Reg Compliance) – 2016

**Professional Experience**

**2023 – present University of Texas at Austin**

*Senior Research Scientist* leading a research portfolio focused on measurement reconciliation

and estimating methodologies for methane and other pollutants from both onshore and

offshore oil and gas facilities. Leads development of global MMRV education initiatives.

**2023 – present Astra Energy Group, LLC**

*Managing Member* of woman-owned energy emissions and economics advisory. Provides

advisory on clean air act issues, methane emissions measurement strategies, and regulatory

compliance.

**2021 – 2023 United Nations Environment Programme, International Methane Emissions Observatory**

*OGMP 2.0 Senior Advisor*, responsible for technical guidance development, consulting with

members on program requirements and measurement strategies, conformance assessments of

submissions (three grading seasons), and member recruiting.

**2022 – 2023 Validere**

*Senior Director Carbon Strategies*, advising on product development, with an emphasis on

measurement reconciliation, emissions measurement interpretation, and strategic advice.

**2021 – 2022 ChampionX**

*Director of R&D*, responsible for the aerial measurement program (legacy Scientific Aviation

manned and unmanned aircraft measurements) and emissions research.

**2021 – 2021 GTI**

*Senior Director, Gas Transition Solutions*, developed Veritas program and recruited founding

members.

**2014 – 2021 ExxonMobil**

*Technology Development Team Lead (2017-2021)*, responsible for environmental research

portfolio of projects (methane, produced water, environmental genomics, etc.), with individual

research portfolio focused on global methane measurement, detection, and mitigation.

*Air & GHG Advisor (2014-2017)*, managing a portfolio of federal clean air act rules, supporting

compliance and advocacy activities across petrochemical refineries, chemical manufacturing,

petroleum production, and National Ambient Air Quality Standards.

**2007 – 2014 Phillips 66 (ConocoPhillips)**

*Environmental Scientist (2013-2014)*, responsible for regulatory compliance and environmental

stewardship at the Sweeny Refinery.

*Chief Scientist (2007-2013),* scientist within the R&D organization, leading the air emissions

research portfolio (majority of time), with contributions to the alternative energy and heavy

metals research teams.

**Appointments**

2021 – 2023 Visiting Research Fellow, University of Texas at Austin

2021 – Present ESG Advisor, TRP Energy

2009 – 2012 Elected Representative to the Bartlesville City Council, Bartlesville, OK

#### Representative publications on emissions from oil and gas systems:

1. Daniel Ospina *et. al.* “Ten New Insights in Climate Science 2024.” *One Earth. Submitted.* (2024).
2. Stokes, S., Tullos, E., Morris, L., Cardoso-Saldaña, F.J., Smith, M., Conley, S., Smith, B., Allen, D.T., Reconciling multiple methane detection and quantification systems at oil and gas tank battery sites, Environmental Science & Technology, 56, 6055–16061, doi: 10.1021/acs.est.2c02854 (2022).
3. Tullos, E.E., Stokes, S., Cardoso-Saldaña, F.J., Herndon, S.C., Smith, B., Allen, D.T., Use of short duration measurements to estimate methane emissions at oil and gas production sites, Environmental Science & Technology Letters, 8, 463–467 (2021).
4. Allen, David & Ravikumar, Arvind & Tullos, Erin. (2023). Scientific Challenges of Monitoring, Measuring, Reporting, and Verifying Greenhouse Gas Emissions from Natural Gas Systems. *ACS Sust. Res. Mgmt*. 1. 10.1021/acssusresmgt.3c00132.
5. Ravikumar, Arvind & Tullos, Erin & Allen, David & Cahill, Ben & Hamburg, Steven & Zimmerle, Daniel & Fox, Thomas & Caltagirone, Manfredi & Owens, Lara & Stout, Robert & Grimes, Andrew & Fernandez, Tania & Jenks, Carrie & Duren, Riley & Halff, Antoine & Bazilian, Morgan & Rucker, Stefanie. (2023). Measurement-based differentiation of low-emission global natural gas supply chains. *Nature Energy*. 8. 10.1038/s41560-023-01381-x.
6. United Nations Environment Programme (2023). [An Eye on Methane — The road to radical transparency: International Methane Emissions Observatory 2023](https://wedocs.unep.org/bitstream/handle/20.500.11822/44129/eye_on_methane.pdf?sequence=3). Nairobi
7. Colette Schissel, Qining Chen, **Erin Tullos**, Arvind Ravikumar, and David Allen. “Comparing the emission reduction effectiveness of continuous monitoring to periodic Optical Gas Imaging surveys for methane emissions at oil and gas production sites.” 10.26434/chemrxiv-2023-gcmkh. (2023)
8. An Eye on Methane: International Methane Emissions Observatory 2021 Report,October 31, 2022 contributing author. [An Eye on Methane: International Methane Emissions Observatory 2022 Report | UNEP - UN Environment Programme](https://ogmpartnership.com/wp-content/uploads/2023/02/IMEO-2022-Report.pdf)
9. An Eye on Methane: International Methane Emissions Observatory 2022 Report,October 31, 2021 contributing author. [An Eye on Methane: International Methane Emissions Observatory 2021 Report | UNEP - UN Environment Programme](https://www.unep.org/resources/report/eye-methane-international-methane-emissions-observatory-2021-report)
10. Wally Contreras, Chris Hardy, Kaylene Tovar, Allison M. Piwetz, Chad R. Harris, **Erin E. Tullos**, Adam Bymaster, John McMichael, Ian J. Laurenzi. “Life Cycle greenhouse gas emissions of crude oil and natural gas from the Delaware Basin” J. Cleaner Production, 328, 129530 (2021).

**Synergistic activities**

1. *Project Astra* Dr. Tullos was the lead creator and continues to be involved with Project Astra ([www.projectastra.energy](http://www.projectastra.energy) ) which is demonstrating the performance capabilities of shared ground measurement networks for methane emission detection and quantification
2. *OGMP 2.0* Dr. Tullos was the lead author on the Measurement Uncertainty & Reconciliation and related implementing Technical Guidance Documents for the Oil and Gas Methane Partnership, the only global, measurement based reporting framework for methane emissions from oil and gas assets, led by the United Nations Environment Programme. She was the lead expert for measurement, company recruiting in the Americas, and senior reporting assessor for the first three years of member reporting.
3. *Other relevant contracts and grants* Dr. Tullos is also a Principal Investigator on a research project to develop a protocol for evaluating the performance of technologies for measuring methane emissions from off-shore oil and gas platforms. Dr. Tullos also delivers training on methane measurement at source and site level and OGMP 2.0 particpatin
4. *National Petroleum Council service* Dr. Tullos participated on the writing team for two of the the National Petroleum Council’s committees that responded to a request from the Secretary of Energy on greenhouse gas emissions from oil and gas production operations. National Petroleum Council. (2024). *Charting the Course - Reducing Greenhouse Gas Emissions from the Natural Gas Supply Chain.* <https://chartingthecourse.npc.org/>

**Select Patents**

1. EE Tullos. Automated Flare Control. US Patent 9,677,762, 2017**.**
2. EE Tullos, JM Hays, R Schmidt, JB Cross. [Mercury removal with sorbents magnetically separable from treated fluids](https://scholar.google.com/scholar?oi=bibs&cluster=1010171195525099035&btnI=1&hl=en) US Patent 8,043,510, 2011.
3. EE Tullos, JB Cross, SA Thomas. [Mercury removal from water](https://patents.google.com/patent/US20110068046A1/en). US Patent App. 12/879,724, 2011.
4. JM Hays, EE Tullos, JB Cross. [Mercury removal from hydrocarbons](https://scholar.google.com/scholar?oi=bibs&cluster=15892763617472122393&btnI=1&hl=en). US Patent 7,919,665, 2011.