SHANNON NICOLE STOKES

**Center for Energy and Environmental Resources**

**The University of Texas at Austin**

**Austin, Texas 78712 stokessn@austin.utexas.edu**

Shannon Stokes joined the Center for Energy and Environmental Resources at the University of Texas at Austin in 2019 and the Energy Emissions Modeling and Data Lab in 2024. She has contributed to and managed projects involving multiple universities, oil and gas operators and consulting companies. She has worked on projects with state and federal funding and has extensive experience proposing and planning measurement campaigns, incorporating insights on the measurement technology capabilities and the methane and VOC emission sources from oil and gas and non-oil and gas sources. Shannon has experience exploring a variety of data sources, including public databases (GHGRP reporting websites, gridded inventories, state and federal permitting sites) and published data from independent research (emissions observed in past campaigns) to obtain information to inform current projects. She also has experience estimating emissions using a variety of tools, from simple production-based estimates to time-series predictions using the Methane Emission Estimation Tool (MEET) and using these emission estimates to interpret data from measurement campaigns and other sources. She received her PhD in Environmental Engineering from the University of Texas at Austin and has a B.S. in Foreign Service from Georgetown University.

**Education and Training**

B.S. Foreign Service Georgetown University 1999

M.S. Environmental and Water Resources Engineering The University of Texas at Austin 2002

Ph.D. Civil, Architectural and Environmental Engineering The University of Texas at Austin 2009

**Research and Professional Experience**

2024 – present Research Engineering/Science Associate IV, Center for Energy and Environmental Resources, The University of Texas at Austin

2020 – present Lecturer, Cockrell School of Engineering, The University of Texas at Austin

2016 – 2024 Senior Field Trainer/ Analyst, Center for Energy and Environmental Resources, The University of Texas at Austin

2015 – 2016 Course Coordinator, OnRamps, The University of Texas at Austin

2012 – 2018 Lecturer, Department of Chemistry, The University of Texas at Austin

2013 – 2015 Curriculum Coordinator, Chembridge, Department of Chemistry, The University of Texas at Austin

2010 – 2014 Research Engineering/Science Associate IV, College of Natural Sciences, The University of Texas at Austin

2000 – 2009 Graduate Research Assistant, Environmental and Water Resources Engineering, The University of Texas at Austin

#### Publications on emissions from oil and gas systems:

1. Huang, L., Stokes, S., Chen, Q., Cardoso-Saldaña, F.J., Allen, D.T., Uncertainties in the Estimated Methane Emissions in Oil and Gas Production Regions Based on Aircraft Mass Balance Flights, ACS Sustainable Chemistry & Engineering, 12 (29), 11024-11032, doi 10.1021/acssuschemeng.4c03945 (2024).
2. Huang, L., Stokes, S., Chen, Q., Cardoso-Saldaña, F.J., Allen, D.T., High spatial and temporal resolution simulations of methane column loadings due to routine emissions and emission events in oil and gas regions, ACS ES&T Air, 1, 706–713, doi: 10.1021/acsestair.4c00021 (2024).
3. 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).
4. 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).

**Synergistic activities**

1. *Project Astra Phase II* Dr. Stokes is a Senior/Key Personnel for Project Astra Phase II ([www.projectastra.energy](http://www.projectastra.energy) ) which is will expand a network of continuous monitoring solutions to better understand emissions from natural gas compressor stations and natural gas processing plants in the Permian Basin (AOI2)
2. *The Marcellus Methane Monitoring (M3) Project* Dr. Stokes is also a Senior/Key Personnel facility-level methane emissions measurement and reconciliation protocol within the Marcellus shale basin (AOI3)