Lauren B. Stadler

Curriculum Vitae

Department of Civil and Environmental Engineering, Rice University
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1. EDUCATION / EMPLOYMENT HISTORY

1.1. Education

2016	Doctor of Philosophy in Environmental Engineering University of Michigan, Ann Arbor, MI Dissertation: *Elucidating the Impact of Low Oxygen Wastewater Treatment on Pharmaceutical Fate,* Adviser: Nancy G. Love
2012	Masters of Science in Engineering in Environmental Engineering University of Michigan, Ann Arbor, MI
2006	Bachelor of Science in Engineering Swarthmore College, Swarthmore, PA
2004	Associate of Arts Simon's Rock College of Bard, Great Barrington, MA

1.2. Employment History

2024-present	Associate Professor, Department of Civil and Environmental Engineering, Rice University, Houston, TX
2016-2024	Assistant Professor, Department of Civil and Environmental Engineering, Rice University, Houston, TX
2010-2015	Graduate Student Researcher, University of Michigan, Ann Arbor
2009-2010	U.S. Fulbright Research Scholar, Indian Agricultural Research Institute, New Delhi, India
2007-2009	Wastewater Engineer, Oswald Engineering Associates, Kensington, CA
2006-2007	Systems Engineer, SAIC, Inc., Arlington, VA

1.3. Professional Recognition: Awards and Study Fellowships

Research and Teaching Awards

2025	Duncan Award for Research and Teaching, Rice University
2025	40 under 40, American Academy of Environmental Engineers and Scientists
2023	TAMEST Protégé
2023	Provost's Award for Outstanding Early-Career Achievement, Rice University
2023	NSF CAREER Award

2023	Notable Collaborative Achievement, Gulf Coast Consortia
2021	New Engineer to Watch – Water Environment Federation
2019	Gulf Research Program Early Career Research Fellow
2018	Johnson & Johnson WiSTEM2D Engineering Scholar
2016	CH2M/AEESP Outstanding Doctoral Dissertation Award
2015	*Environmental Science & Technology Letters* Best Paper Award

Fellowships

2014 – 2015	Rackham Predoctoral Fellow, University of Michigan, Ann Arbor
2013 – 2015	Dow Sustainability Doctoral Fellow, University of Michigan, Ann Arbor
2011 – 2014	National Science Foundation Graduate Research Fellow
2010 – 2014	Rackham Merit Fellow, University of Michigan, Ann Arbor
2011	Michigan Water Environment Association John P. Hennessey Scholarship
2009 – 2010	Fulbright Research Scholarship, New Delhi, India

1.4. Professional Society Membership

Association of Environmental Engineering and Science Professors (AEESP)
American Society of Civil Engineers (ASCE)
International Water Association (IWA)
Water Environment Federation (WEF)
Water Environment Association of Texas (WEAT)

2. RESEARCH / SCHOLARSHIP

*Graduate and undergraduate student co-authors who are current or former Rice students supervised by L. Stadler are respectively denoted by superscripts "**" and "*". Corresponding author is in **bold**.*

Refereed Articles in Journals (J)

Submitted

J1. Musaazi IG, Liu L, Shaw A, Stadler LB, and **Delgado Vela J**. Resampling imbalanced data for the prediction of high wastewater flows using machine learning. Submitted to *Water Research X*.

J2. Ali P**, Musaazi IG, Delgado Vela J, Liu L, Christenson D, Shaw A, **Stadler LB**. Impacts of extreme wet weather events on biological wastewater treatment process resilience and proposed mitigation strategies." In revision for submission to *Nature Water*.

J3. Wu J, Schneider R, Wang M, Ensor K, Hopkins L, Treangen TJ, and **Stadler LB**. Mpox detections in wastewater: assaying influent fractions and assessing relationships to reported cases in Houston, TX.

Published

J1. Kalvapalle PB**, Staubus A, Dysart MJ**, Gambill L, Reyes Gamas K**, Lu LC, **Silberg JJ**, **Stadler LB**, and **Chappell J**. Information storage across a microbial community using universal RNA memory. (2025) *Nature Biotechnology.* https://doi.org/10.1038/s41587-025-02593-0

J2. Ali P**, Reeve M, Carlson-Stadler R, Delgado Vela J, Liu L, Christenson D, Shaw A, and **Stadler LB**. Evaluation of biofilm scouring methods on the nitrification efficiency in a pilot-scale membrane-aerated biofilm reactor. (2025) *Water Environment Research*, 97(3), e70044. https://doi.org/10.1002/wer.70044

J3. **Liu L**, Morrison J, Stadler LB, Shaw A, Delgado Vela J, and Christenson D. Modeling the resilience of Houston's wastewater treatment plant under wet weather conditions. (2025) *Journal of Sustainable Water in the Built Environment*, 11(2), 04025002. https://doi.org/10.1061/JSWBAY.SWENG-609

J4. Crosby T** and **Stadler LB**. Plasmid backbone impacts conjugation rate, transconjugant fitness, and community assembly of genetically-bioaugmented soil microbes for PAH bioremediation. (2025) *ACS Environmental Au* https://doi.org/10.1021/acsenvironau.4c00123

J5. Ali P**, Xu G*, Carlson Stadler R, Delgado Vela J, Liu L, Shaw A, and **Stadler LB**. Resilience in function, microbial community structure, and nitrifier composition of bench-scale biofilm reactors during wet weather disturbances. (2025) *ACS ES&T Water.*

J6. Zhou S**, Lou EG, Schedler J, Ensor KB, Hopkins L, and **Stadler LB**. Comparative analysis of culture-and ddPCR-based wastewater surveillance for carbapenem-resistant bacteria. (2025) *Environmental Science: Water Research & Technology,* 11(1), 51-63. 10.1039/D4EW00525B

J7. Wu J, Ensor KB, Hopkins L, and **Stadler LB.** Assessment and application of GeneXpert rapid testing for respiratory viruses in school. (2025) *Environmental Science: Water Research and Technology*, 11(1), 64-76. https://doi.org/10.1039/D4EW00526K

J8. Wu J, Wang MX, Kalvapalle P**, Nute M, Treangen TJ, Ensor KB, Hopkins L, Poretsky R, and **Stadler LB**. Multiplexed Detection, Partitioning, and Persistence of Wild-Type and Vaccine Strains of Measles, Mumps, and Rubella Viruses in Wastewater. (2024) *Environmental Science & Technology,* 58(50), 21930–21941. https://doi.org/10.1021/acs.est.4c05344

J9. Schneider R, Domakonda K, Bhandari S, Stadler LB, Ensor KB, Mulenga A, Johnson CD, and **Hopkins L**. Implementing an Alert System for Communicating Actionable Wastewater Surveillance Results to School Communities, Houston, Texas, 2023-2024. (2024). *Public Health Reports.* https://doi.org/10.1177/00333549241275408

J10. Schneider R, Weisbeck K, Sheth K, Sikes P, Stadler LB, Ensor K, Shaw R, Berkobien C,

Wheeler A, Johnson C, Lengsfeld C, and **Hopkins L**. Assessment of Public Health Agency and Utility Training Needs for CDC National Wastewater Surveillance System Jurisdictions in the United States. (2024) *Health Promotion Practice.*
https://doi.org/10.1177/15248399241275617

J11. Sheth K, Short K, <u>Stadler LB</u>, Ensor K, Johnson CD, Williams S, Persse D, and **Hopkins L**. A Novel Framework for Public Health Agency Internal Response to Wastewater Surveillance Detection of Pathogens. (2024) *Public Health Reports.*
https://doi.org/10.1177/00333549241253787

J12. Sheth K, **Hopkins L**, <u>Stadler LB</u>, Ensor K, Johnson C, White J, Persse D, and Septimus E. (2024) Wastewater Target Pathogens of Public Health Importance for Expanded Sampling Recommended by Infectious Disease Subject Matter Experts. (2024) *Emerging Infectious Diseases,* 30(8), 14-17. DOI: 10.3201/eid3008.231564

J13. Wang MX, Lou EG**, Sapoval N, Kim E, Kalvapalle P**, Kille B, Elworth RAL, Fu Y, **Stadler LB,** and **Treangen TJ**. Olivar: towards automated variant aware primer design for multiplex tiled amplicon sequencing of pathogens. (2024) *Nature Communications*, 15(1), 6306. https://doi.org/10.1038/s41467-024-49957-9

J14. Wolken M**, Wang M, Schedler J, Campos RH, Ensor KB, Hopkins L, Treangen T, and **Stadler LB.** PreK-12 School and Citywide Wastewater Monitoring of the Enteric Viruses Astrovirus, Rotavirus, and Sapovirus. (2024) *Science of Total of the Environment*, 931, 172638. https://doi.org/10.1016/j.scitotenv.2024.172683

J15. Liu Y, Sapoval N, Gallego-Garcia P, Tomas L, Posada D, **Treangen TJ**, and **Stadler LB**. Crykey: Rapid Identification of SARS-CoV-2 Cryptic Mutations in Wastewater. (2024) *Nature Communications,* 15(1), 4545. https://doi.org/10.1038/s41467-024-48334-w

J16. Kalvapalle PB**, Sridar S, **Silberg JJ**, and **Stadler LB**. Long duration environmental biosensing by recording analyte detection in DNA using recombinase memory. (2024) *Applied and Environmental Microbiology,* 90(4), e02363-23. https://doi.org/10.1128/aem.02363-23

J17. **Ensor KB**, Schedler JC, Sun T, Schneider R, Mulenga A, Wu J, <u>Stadler LB</u>, and Hopkins L. Online trend estimation and detection of trend deviations in sub-sewershed time series of SARS-CoV-2 RNA measured in wastewater. (2024) *Scientific Reports,* 14(1), 5575. https://doi.org/10.1038/s41598-024-56175-2

J18. Lou E**, Fu Y, Wang Q, Treangen T, and **Stadler LB**. Sensitivity and consistency of long- and short-read metagenomics and epicPCR for the detection of antibiotic resistance genes and their bacterial hosts in wastewater. (2024) *Journal of Hazardous Materials,* 469, 133939. https://doi.org/10.1016/j.jhazmat.2024.133939

J19. Liu L, Zhou X, Dueñas-Osorio L, <u>Stadler LB</u>, and **Li Q**. Hybrid wastewater treatment and reuse enhances urban water system resilience to disruptive incidents. (2023) *Nature Water,* 1-

11.

J20. **Valencia D**, Yu AT, Wheeler A, Hopkins L, Pray I, Horter L, Vugia DJ, Matzinger S, <u>Stadler LB</u>, Kloczko N, Welton M, Bertsch-Merback S, Domakonda K, Antkiewicz N, Turner H, Crain C, Mulenga A, Shafer M, Owiti J, Schneider R, Janssen KH, Wolfe MK, McClellan SL, Boehm AB, Roguet A, White B, Schussman MK, Rane MS, Hemming J, Collins C, Abram A, Burnor E, Westergaard R, Ricaldi JN, Person J, and Fehrenbach N. (2023) Notes from the Field: The National Wastewater Surveillance System's Centers of Excellence Contributions to Public Health Action During the Respiratory Virus Season — Four U.S. Jurisdictions, 2022–23. *MMWR Morbidity and Mortality Weekly Report,* 72(48), 1309-1312. https://doi.org/10.15585%2Fmmwr.mm7248a4

J21. Philo SE, De León KB, Noble RT, Zhou NA, Alghafri R, Bar-Or I, Darling A, D'Souza N, Hachimi O, Kaya D, Kim S, Kuhn KG, Layton BA, Mansfeldt C, Oceguera B, Radniecki TS, Ram JL, Saunders LP, Shrestha A, <u>Stadler LB</u>, Steele JA, Stevenson BS, Bibby K, Boehm AB, Halden RU, and **Delgado Vela J**. (2023) Wastewater surveillance for bacterial targets: current challenges and future goals. *Applied and Environmental Microbiology*, e01428-23. https://doi.org/10.1128/aem.01428-23

J22. McCall C, Elworth RAL, Wylie KM, Wylie TN, Dyson K*, Doughty R*, Treangen T, Hopkins L, Ensor KB, and **Stadler LB**. (2023) Targeted metagenomics sequencing for detection of vertebrate viruses in wastewater for public health surveillance. *ES&T Water*, 3(9), 2955-2965. https://doi.org/10.1021/acsestwater.3c00183

J23. Johnson G, Esparza A, Stevenson E, <u>Stadler LB,</u> Ensor K, Williams S, Sheth K, Johnson C, **Hopkins L**. (2023) Schools and Wastewater Surveillance: Practical Implications for an Emerging Technology to Impact Child Health. *Health Promotion Practice,* 15248399231196857. https://doi.org/10.1177/15248399231196857

J24. **Hopkins L**, Williams S, Ensor KB, <u>Stadler LB</u>, Schneider R, Domakonda K, McCarthy JJ, Septimus EJ, and Persse D. (2023) Public Health Interventions Guided by Houston's Wastewater Surveillance Program During the COVID-19 Pandemic. *Public Health Reports*, 138(6), 856-861. DOI: 10.1177/00333549231185625.

J25. Sapoval N**, Liu Y, Lou EG**, Hopkins L, Ensor K, Schneider R, **Stadler LB**, and **Treangen T**. (2023) Enabling accurate and early detection of recently emerged SARS-CoV-2 Variants of Concern in Wastewater. *Nature Communications*, 14(1), 2834. https://doi.org/10.1038/s41467-023-38184-3

J26. Hollstein M**, Comerford M, Uhl M, Abel M, Egan S, and **Stadler LB**. (2023) Impact of a natural disturbance on the performance and microbial communities in a full-scale constructed wetland for industrial wastewater treatment. *Frontiers in Environmental Science,* 11. DOI: 10.3389/fenvs.2023.1187143.

J27. Zhou X, Duenas Osorio L, Doss Gollin J, Liu L, <u>Stadler LB</u>, and **Li Q**. Meso-scale modeling of distributed waster systems enables policy search. (2023) *Water Resources Research.* DOI:

10.1029/2022WR033758.

J28. Keshaviah A, Diamond MB, Wade MJ, and **Scarpino SV**, on behalf of the Global Wastewater Action Group. (2023) Wastewater Monitoring Can Anchor Global Disease Surveillance Systems. *Lancet Global Health,* 11(6), e976-e981. https://doi.org/10.1016/S2214-109X(23)00170-5

J29. Wolken M**, Sun T, McCall C, Schneider R, Caton K, Hundley C, Hopkins L, Ensor KB, Domakonda K, Kalvapalle P**, Persse D, Williams S, and **Stadler LB**. (2023) Wastewater surveillance of SARS-CoV-2 and influenza in preK-12 schools shows school, community, and citywide infections. *Water Research*, 231, 119648. https://doi.org/10.1016/j.watres.2023.119648

J30. Lou E**, Ali P**, Lu K*, Kalvapalle P**, and **Stadler LB**. (2022) Snapshot ARG removal rates across wastewater treatment plants are not representative due to diurnal variations. *ACS ES&T Water*, 3(1), 166-175. https://doi.org/10.1021/acsestwater.2c00467

J31. Hopkins L, Persse D, Caton K, Ensor K, Schneider R, McCall C, and **Stadler LB**. (2022) Citywide wastewater SARS-CoV-2 levels strongly correlated with multiple disease surveillance indicators and outcomes over three COVID-19 waves. *Science of the Total Environment*, 855: 158967. https://doi.org/10.1016/j.scitotenv.2022.158967

J32. Senehi N**, Ykema M, Sun R, Verduzco R, Stadler LB, Tao Y, and **Alvarez PJJ**. (2022) Protein-imprinted particles for coronavirus capture from solution. *Journal of Separation Science,* September 28, 2022. https://doi.org/10.1002/jssc.202200543

J33. Diamond MB, Keshaviah A, Bento AI, Conroy-Ben O, Driver EM, Ensor KB, Halden RU, Hopkins LP, Kuhn KG, Moe CL, Rouchka EC, Smith T, Stevenson BS, Susswein Z, Vogel JR, Wolfe MK, Stadler LB, and **Scarpino SV**. (2022) Wastewater surveillance of pathogens can inform public health responses. *Nature Medicine*. 2022 Sep 8:1-4. https://doi.org/10.1038/s41591-022-01940-x

J34. Lou EG**, Sapoval N, McCall C, Schneider R, Bauhs L, Carlson-Stadler R, Kalvapalle P, Lai Y, Palmer K, Penn R, Rich W, Wolken M, Brown P, Ensor KB, Hopkins L, Treangen TJ, and **Stadler LB**. (2022) Direct Comparison of RT-ddPCR and Targeted Amplicon Sequencing for SARS-CoV-2 Mutation Monitoring in Wastewater. *Science of the Total Environment,* 83: 155059. DOI: https://doi.org/10.1016/j.scitotenv.2022.155059

J35. **Kirby AE**, Welsh RM, Marsh ZA, Yu AT, Vugia DJ, Boehm AB, Wolfe MK, White BJ, Matzinger SR, Wheeler A, Bankers L, Andresen K, Salatas C, New York City Department of Environmental Protection, Gregory DA, Johnson MC, Trujillo, M, Kannoly S, Smyth DS, Dennehy JJ, Sapoval N**, Ensor KB, Treagen T, Stadler LB, Hopkins L. (2022) Notes from the Field: Early Evidence of the SARS-CoV-2 B.1.1.529 (Omicron) Variant in Community Wastewater — United States, November–December 2021. *MMWR Morbidity & Mortality Weekly Report*; 71:103–105. DOI: http://dx.doi.org/10.15585/mmwr.mm7103a5

J36. McCall C, Fang N, Juan A, LaTurner ZW**, Ensor KB, Hopkins L, Bedient P, and **Stadler LB**. (2022) Modeling SARS-CoV-2 RNA degradation in small and large sewersheds. *Environmental Science: Water Research & Technology.* doi: 10.1039/D1EW00717C

J37. Podar M, May AL, Bai W, Peyton K, Klingeman DM, Swift CM, Linson DAF, Mathieu J, Siljestrom D, Beneyto I, Stadler LB, Pinhas Y, Loffler F, Alvarez PJJ, **Kumar M**. (2021) Microbial diversity analysis of two full-scale seawater desalination treatment trains provides insights into detrimental biofilm formation. *Journal of Membrane Science Letters*, 1(1): 10001. DOI: 10.1016/j.memlet.2021.100001

J38. Harb M, Zarei-Baygi A, Wang P, Sawaya CB, McCurry DL, Stadler LB, and **Smith AL**. (2021) Antibiotic transformation in an anaerobic membrane bioreactor linked to membrane biofilm microbial activity. *Environmental Research*, 200, 111456. https://doi.org/10.1016/j.envres.2021.111456.

J39. LaTurner ZW**, Zong DM, Kalvapalle P**, Reyes Gamas K**, Terwilliger A, Crosby T**, Ali P**, Avadhanula V, Hernandez Santos H, Weesner K, Hopkins L, Piedra PA, Maresso AW, **Stadler LB.** (2021) Evaluating recovery, cost, and throughput of different concentration methods for SARS-CoV-2 wastewater-based epidemiology. *Water Research*, 197, 117043. https://doi.org/10.1016/j.watres.2021.117043

J40. Shore A, Sims JA, Grimes M, Howe-Kerr LI, Grupstra CGB, Doyle SM, Stadler LB, Sylvan JB, Shamberger KEF, Davies SW, Santiago-Vazquez LZ, and **Correa AMS**. (2021) On a Reef Far, Far Away: Anthropogenic Impacts Following Extreme Storms Affect Sponge Health and Bacterial Communities. *Frontiers Marine Science*, 8, 305. https://doi.org/10.3389/fmars.2021.608036

J41. McClary-Guitierrez J, Aanderud ZT, Al-Faliti M, Duvallet C, Gonzalez R, Guzman J, Holm R, Jahne MA, Kantor RS, Katsivelis P, Kuhn KG, Langan LM, Mansfeldt C, McLellan SL, Grijalva LM, Murnane KS, Naughton CC, Packman AI, Paraskevopoulos S, Radniecki TS, Roman FA, Shrestha A, Stadler LB, Steele JA, Swalla BM, Vikesland P, Wartell B, Wilusz CJ, Wong JCC, Boehm AB, Halden RU, Bibby K, **Delgado Vela J**. (2021) Standardizing data reporting in the research community to enhance the utility of open data for SARS-CoV-2 wastewater surveillance. *Environmental Science: Water Research & Technology*, 7(9), 1545-1551. DOI: 10.1039/D1EW00235J

J42. Del Valle I, Fulk EM, Kalvapalle P**, Silberg JJ, Masiello CA, and **Stadler LB.** (2021) Translating new synthetic biology advances for biosensing into the Earth and environmental sciences. *Frontiers in Microbiology,* 11: 618373. https://doi.org/10.3389/fmicb.2020.618373

J43. LaTurner ZW**, Bennett GN, San KY, and **Stadler LB.** (2020) Single cell protein production from food waste using purple non-sulfur bacteria shows economically viable protein products have higher environmental impacts. *Journal of Cleaner Production*, 276, 123114. https://doi.org/10.1016/j.jclepro.2020.123114

J44. Baygi AZ, Wang P, Harb M, <u>Stadler LB,</u> and **Smith AL.** (2020) Membrane fouling inversely impacts intracellular and extracellular antibiotic resistance gene abundances in the effluent of an anaerobic membrane bioreactor. *Environmental Science & Technology*, 54(19), 12742-12751. https://doi.org/10.1021/acs.est.0c04787

J45. Liu L, Lopez E, Dueñas-Osorio L, <u>Stadler LB</u>, Xie Y, Alvarez PJJ, and **Li Q**. (2020) The importance of system configuration for distributed direct potable water reuse. *Nature Sustainability*, 3(7), 548-555. https://doi.org/10.1038/s41893-020-0518-5

J46. Rice EW**, Wang P, Smith AL, and **<u>Stadler LB</u>**. (2020) Determining Hosts of Antibiotic Resistance Genes: A Review of Methodological Advances. *Environmental Science & Technology Letters,* 7(5), 282-291. https://doi.org/10.1021/acs.estlett.0c00202

J47. He Y, Yuan Q, Mathieu J, <u>Stadler LB</u>, Senehi N**, Sun R, **Alvarez PJJ**. (2020) Antibiotic Resistance Genes from Livestock Waste: Occurrence, Dissemination and Treatment. *Nature Clean Water*, 3 (1), 1-11. https://doi.org/10.1038/s41545-020-0051-0

J48. Falinski MM, Turley RS, Kidd J, Lounsbury AW, Lanzarini-Lopes M, Backhaus A, Rudel HE, Lane MKM, Fausey CL, Barrios AC, Loyo-Rosales JE, Perreault F, Walker WS, <u>Stadler LB</u>, Elimelech M, Gardea-Torresdey JL, Westerhoff P, and **Zimmerman JB**. (2020) Doing nano-enabled water treatment right: sustainability considerations from design and research through development and implementation. *Environmental Science: Nano*, 7(11), 3255-3278. https://doi.org/10.1039/D0EN00584C

J49. Lou EG**, Harb M, Smith AL, and **<u>Stadler LB</u>**. (2020) Livestock manure improved antibiotic resistance gene removal during co-treatment of domestic wastewater in an anaerobic membrane bioreactor. *Environmental Science: Water Research & Technology*, 6(10), 2832-2842. https://doi.org/10.1039/D0EW00387E

J50. Zarei-Baygi A, Harb M, Wang P, <u>Stadler LB</u>, and **Smith AL**. (2020) Microbial community and antibiotic resistance profiles of biomass and effluent are distinctly affected by antibiotics addition to an anaerobic membrane bioreactor. *Environmental Science: Water Research & Technology,* 6(3), 724-736. https://doi.org/10.1039/C9EW00913B

J51. Harb M, Lou E**, Smith AL, and **<u>Stadler LB</u>**. (2019) Perspectives on the fate of emerging contaminants in mainstream anaerobic wastewater treatment. *Current Opinion in Biotechnology*, 57, 94-100. https://doi.org/10.1016/j.copbio.2019.02.022

J52. Zarei-Baygi A, Harb M, Wang P, <u>Stadler LB</u>, and **Smith AL**. (2019) Evaluating antibiotic resistance gene correlations with antibiotic exposure conditions in anaerobic membrane. *Environmental Science & Technology*, 53(7), 3599-3609. https://doi.org/10.1021/acs.est.9b00798

J53. **<u>Stadler LB</u>**, and Love NG. (2019) Oxygen half-saturation constants for pharmaceuticals in activated sludge and microbial community activity under varied oxygen levels.

Environmental Science & Technology, 53(4), 1918–1927.
https://doi.org/10.1021/acs.est.8b06051

J54. Yu P, Zaleski A**, Li Q, He Y, Pruden A, Alvarez PJJ, and **Stadler LB.** (2018) Elevated Indicator Pathogenic Bacteria and Antibiotic Resistant Genes after Hurricane Harvey's Flooding in Houston. *Environmental Science & Technology Letters,* 5(8), 481–486. https://doi.org/10.1021/acs.estlett.8b00329

J55. Amha YM, Anwar MZ, Brower A**, Jacobsen CS, Stadler LB, Webster TM, and **Smith AL**. (2018) Inhibition of Anaerobic Digestion Processes: Applications of Molecular Tools. *Bioresource Technology,* 247, 999-1014. https://doi.org/10.1016/j.biortech.2017.08.210

J56. Stadler LB[+], Delgado Vela J[+], Jain S, Dick GJ, and **Love NG**. (2017) Elucidating the impact of microbial community diversity on pharmaceutical transformations in activated sludge. *Microbial Biotechnology*, 11(6), 995-1007. ([+]These authors contributed equally to this work). https://doi.org/10.1111/1751-7915.12870

J57. Becker AM, Yu K, Stadler LB, and **Smith AL**. (2017) Co-management of domestic wastewater and food waste: A life cycle comparison of alternative food waste diversion strategies. *Bioresource Technology*, 223, 131-140. https://doi.org/10.1016/j.biortech.2016.10.031

J58. Stadler LB and **Love NG**. (2016) Impact of microbial physiology and microbial community structure on pharmaceutical fate driven by dissolved oxygen concentration in nitrifying bioreactors. *Water Research*, 104, 189-199. https://doi.org/10.1016/j.watres.2016.08.001

J59. Delgado Vela J, Stadler LB, Martin KJ, Raskin L, Bott CB, and **Love NG**. (2015) Prospects for Biological Nitrogen Removal from Anaerobic Effluents during Mainstream Wastewater Treatment. *Environmental Science & Technology Letters*, 2 (9), 234-244. https://doi.org/10.1021/acs.estlett.5b00191

J60. Stadler LB, Su L, Moline CJ, Ernstoff AS, Aga DS, and **Love NG**. (2015) Effect of redox conditions on pharmaceutical loss during biological wastewater treatment using sequencing batch reactors. *Journal of Hazardous Materials*, 282, 106-115. https://doi.org/10.1016/j.jhazmat.2014.08.002

J61. Smith AL[+], Stadler LB[+], Cao L, Love NG, Raskin L, and Skerlos SJ. (2014) Navigating wastewater energy recovery strategies: A life cycle comparison of anaerobic membrane bioreactor and conventional treatment systems with anaerobic digestion. *Environmental Science & Technology*, 48 (10), 5972-5981. ([+]These authors contributed equally to this work). https://doi.org/10.1021/es5006169

J62. Rimer SP, Alfaro JF, Stadler LB, Davis CS, and **Winful HG**. (2014) Co-curricular programs in Liberia for student pipeline into engineering and agriculture. International Journal of Engineering Education, 30 (6B), 1602-1612.

J63. Smith AL, <u>Stadler LB</u>, Love NG, Skerlos SJ, and **Raskin L**. (2012) Perspectives on anaerobic membrane bioreactor treatment of domestic wastewater: A critical review. *Bioresource Technology*, 122, 149-159. https://doi.org/10.1016/j.biortech.2012.04.055

Preprints

J64. Sun TY, Schedler JC, Kowal DR, Schneider R, Stadler LB, Hopkins L, Ensor KB. (2025) Uncovering dynamics between SARS-CoV-2 wastewater concentrations and community infections via Bayesian spatial functional concurrent regression. https://doi.org/10.48550/arXiv.2412.02970

J65. **Stadler LB**, Ensor KB, Clark JR, Kalvapalle P, LaTurner ZW, Mojica L, Terwilliger A, Zhuo Y, Ali P, Avadhanula V, Bertolusso R, Crosby T, Hernandez H, Hollstein M, Weesner K, Zong DM, Persse D, Piedra PA, Maresso AW, and Hopkins L. (2020) Wastewater Analysis of SARS-CoV-2 as a Predictive Metric of Positivity Rate for a Major Metropolis. https://doi.org/10.1101/2020.11.04.20226191

J66. Wang P, Harb M, Zarei-Baygi A, <u>Stadler LB</u>, and **Smith AL**. Comparative analysis of intracellular and extracellular antibiotic resistance gene abundance in anaerobic membrane bioreactor effluent. https://doi.org/10.1101/702076

Non-Reviewed Articles

J67. Gagnon G, <u>Stadler LB</u>, Bivins A, Moulin L, Kitajima M. Wastewater surveillance for public health: *Quo Vadis*? (2025) *Environmental Science: Water Research & Technology*, 11(1), 8-9. 10.1039/D4EW90048K

J68. **Delgado Vela J**, McClary-Gutierrez J, Al-Faliti M, Allan V, Arts P, Barbero R, Bell C, D'Souza N, Bakker K, Kaya D, Gonzalez R, Harrison K, Kannoly S, Keenum I, Li L, Pecson BM, Philo S, Schneider R, Schussman M, Shrestha A, <u>Stadler L</u>, Wigginton K, Boehm A, Halden R, Bibby K. Impact of disaster research on the development of early career researchers: Lessons learned from the wastewater monitoring pandemic response efforts. (2022) *Environmental Science & Technology,* 56(8), 4724-4727. https://doi.org/10.1021/acs.est.2c01583

J69. Bivins A, North D, Ahmad A, Ahmed W, Alm E, Been F, Bhattacharya P, Bijlsma L, Boehm A, Brown J, Buttiglieri G, Calabro V, Carducci A, Castiglioni S, Cetecioglu Gurol Z, Chakraborty S, Costa F, Curcio S, de los Reyes F, Delgado Vela J, Farkas K, Fernandez-Casi X, Gerba C, Gerrity D, Girones R, Gonzalez R, Haramoto E, Harris A, Holden P, Islam M, Jones D, Kasprzyk-Hordern B, Kitajima M, Kotlarz N, Kumar M, Kuroda K, La Rosa G, Malpei F, Mautus M, McLellan S, Medema G, Meschke J, Mueller J, Newton R, Nilsson D, Noble R, van Nuijs A, Peccia J, Perkins T, Pickering A, Rose J, Sanchez G, Smith A, <u>Stadler LB</u>, Stauber C, Thomas K, van der Voorn T, Wigginton K, Zhu K, and **Bibby K**. Wastewater-Based Epidemiology: Global Collaborative to Maximize Contributions in the Fight Against COVID-19. (2020) *Environmental Science & Technology,* 54(13), 7754-7757. https://doi.org/10.1021/acs.est.0c02388

J70. <u>Stadler LB</u>, Ernstoff AS, Aga D, and **Love NG**. (2012) Micropollutant Fate in Wastewater Treatment: Redefining "Removal." Viewpoint in *Environmental Science & Technology*, 46 (19), 10485-10486. https://doi.org/10.1021/es303478w

<u>Published Reports (R)</u>

R1. Skerlos SJ, Raskin L, Love NG, Smith AL, <u>Stadler LB,</u> and Cao L. (2013) Challenge projects on low energy treatment schemes for water reuse, Phase 1 (WateReuse-10-06D). WateReuse Research Foundation, Alexandria, Virginia.

R2. Love NG, Aga DS, Moline CJ, Ernstoff AS, <u>Stadler LB,</u> and Su L. (2012) Pharmaceutical fate under varying redox biological treatment environments. Water Environment Research Foundation Final Report U1R09, IWA Publishing, London, United Kingdom.

<u>Posters and Presentations at Conferences, Research Expositions, or Seminars (P)</u>

In all presentations, the lead author was the presenting author.

<u>Invited Presentations</u>

P1. <u>Stadler LB.</u> Monitoring and managing antimicrobial resistance in urban water systems. Invited speaker for **Emerging Contaminants in Water and Wastewater Short Course**, *Virtual*, October 22, 2024.

P2. <u>Stadler LB.</u> Resource optimization for expansion of disease targets. Speaker and panelist in *Research innovations in wastewater surveillance science session,* **UNC Water and Health Conference**, Chapel Hill, NC, October 18, 2024.

P3. <u>Stadler LB.</u> From drain to data: The Power of Wastewater Monitoring for Disease Surveillance. Department of Civil and Environmental Engineering Seminar, **University of Houston**, August 30, 2024.

P4. <u>Stadler LB.</u> Flush to action: Monitoring school wastewater for vaccine-preventable diseases. **2024 Wastewater Disease Surveillance Summit,** Atlanta, GA, August 12, 2024.

P5. James Harbridge and <u>Stadler LB</u>. Automated PCR For Wastewater Disease Surveillance in Communities and Public Schools. **National Association of County and City Health Officials (NACCHO) Webinar**, March 20, 2024.

P6. <u>Stadler LB</u>. Wastewater Surveillance: Navigating Science, Public Health, and Ethics in the Era of Environmental Monitoring. **DeLange Conference,** Rice University, February 10, 2024.

P7. <u>Stadler LB.</u> Monitoring and managing the wastewater microbiome to protect human and environmental health. Environmental Engineering seminar series, School of Sustainable Engineering and the Built Environment, **Arizona State University**. November 22, 2023.

P8. <u>Stadler LB.</u> Early Detection of Public Health Epidemics: Wastewater Science in Action. Midweek Medley, Glasscock School of Continuing Studies, **Rice University**. November 8, 2023.

P9. <u>Stadler LB</u>, Ensor KB, and Persse D. Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **Texas Public Health Summit 2023**: From sewage to solutions: The possibilities and implications of wastewater for early detection. Houston, TX. October 19, 2023.

P10. <u>Stadler LB.</u> PreK-12 School Wastewater Monitoring in Houston, TX. **National Academies of Science, Engineering, and Medicine: Community Wastewater-based Infectious Disease Surveillance - Sampling Subgroup Meeting 1.** Speaker (Virtual). September 15, 2023.

P11. <u>Stadler LB</u>. Waste to action: Wastewater disease surveillance for public health response in Houston, TX. Department of Environmental Health and Engineering Seminar, **Johns Hopkins University**. September 12, 2023.

P12. <u>Stadler LB</u>. Houston Wastewater Epidemiology: Past, Present, and Future. **NSF Wastewater-based epidemiology Research Coordination Network Annual Meeting**. Keynote (Virtual). August 2, 2023.

P13. <u>Stadler LB</u>. From drain to data: The power of wastewater monitoring for Disease Surveillance. Department of Civil, Environmental, and Architectural Engineering Seminar, **University of Colorado Boulder**. April 6, 2023.

P14. Hopkins L and <u>Stadler LB</u> (co-presented). The Wastewater Epidemiology Monitoring Program for the City of Houston. **6th Annual Texas Medical Center Antimicrobial Resistance and Stewardship Conference**. Houston, TX. January 20, 2023.

P15. <u>Stadler LB</u>. Waste to Action: Wastewater Surveillance for Infectious Disease Threats. Department of Civil and Environmental Engineering Seminar, **University of Wisconsin, Madison**. October 21, 2022.

P16. <u>Stadler LB</u>, Ensor K, Hopkins L, Sun T, McCall C, Schneider R, Sheth K, Campos L, Persse D, and Williams S. Viral load dynamics at lift stations versus downstream water resource recovery facilities. **Water Environment Federation Technical Exhibition and Conference (WEFTEC)**. New Orleans, LA. October 11, 2022.

P17. <u>Stadler LB</u>, Dysart M, Gambill L, Kalvapalle P, Lu LC, Reyes Gamas K, Staubus A, Silberg JJ, and Chappell J. Tracking horizontal gene transfer in wastewater microbiomes using

catalytic RNA. **American Chemical Society National Meeting**. Chicago, IL. August 24, 2022.

P18. <u>Stadler LB.</u> SARS-CoV-2 Wastewater Surveillance and Public Health Applications in Houston, TX. **SSPEED Conference**. Rice University, Houston, TX. April 29, 2022.

P19. <u>Stadler LB.</u> Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **WaterTalk 16, International Centre for Clean Water**. Indian Institute of Technology, Madras. April 25, 2022 (Virtual).

P20. <u>Stadler LB.</u> Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **ASCE Houston Branch Meeting, Technical Presentation**. Houston, TX. April 19, 2022.

P21. <u>Stadler LB</u> and Hopkins L. Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **Council of State and Territorial Epidemiologists Webinar: Data to Action: The Public Health Value of Wastewater Surveillance.** Webinar. April 5, 2022.

P22. <u>Stadler LB</u>. Monitoring Wastewater to Inform Pandemic Response. **Scientia Lecture Series: Connections.** Rice University, Houston, TX. April 5, 2022.

P23. <u>Stadler LB.</u> Departmental Seminar: Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **Department of Epidemiology, Biostatistics and Occupational Health, McGill University**. March 28, 2022.

P24. <u>Stadler LB</u>. Waste to Action: Wastewater disease surveillance for public health response in Houston, TX. **Keck Seminar – Gulf Coast Consortia.** Rice University, Houston, TX. March 25, 2022.

P25. <u>Stadler LB</u> and Treangen T. SARS-CoV-2 Wastewater Variant Screening in Houston, TX. **CDC SPHERES** (SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology, and Surveillance) Weekly Webinar. December 15, 2021.

P26. <u>Stadler LB</u>. SARS-CoV-2 Wastewater Surveillance and Public Health Applications in Houston, TX. **International Workshop of "Three Waters"** Overall Planning to Comprehensively Protect and Restore Aquatic Ecological Environment. Nanjing Institute of Environmental Sciences, Ministry of Ecology and Environment. December 2, 2021.

P27. <u>Stadler LB</u> (Panelist). EPA Roundtable Discussion for Utilities on A Compendium of U.S. Wastewater Surveillance to Support COVID-19 Public Health Response. October 26, 2021.

P28. <u>Stadler LB</u> and Mojica L. **CDC Foundation Office Hours**: City of Houston Wastewater Surveillance for SARS-CoV-2, Interpretation and Use in Public Health Intervention. Office Hours #1: Establishing and Maintaining a Robust Wastewater Surveillance System for SARS-CoV-2. July 29, 2021.

P29. Stadler LB and Hopkins L. SARS-CoV-2 Wastewater Surveillance and Public Health Applications in Houston, TX. **Virtual COVID Response Cafe on Wastewater Surveillance**. July 9, 2021.

P30. Stadler LB and Hopkins L. **DHS/NIST Workshop: Standards to Support an Enduring Capability in Wastewater Surveillance for Public Health**. June 15, 2021.

P31. Stadler LB. The Surveillance of Houston's Wastewater to Track Community SARS-CoV-2 Infection Dynamics. **American Academy of Environmental Engineers and Scientists** Webinar. March 25, 2021.

P32. Stadler LB. Wastewater Surveillance Community of Practice. Surveillance of Houston's wastewater to track community COVID-19 infection dynamics: Best Practices and Lessons Learned. **Association of Public Health Laboratories**. February 8, 2021.

P33. Stadler LB. Department Seminar: Science to Action: Using wastewater monitoring of SARS-CoV-2 to inform interventions in Houston, TX. Department of Civil and Environmental Engineering, Rice University. January 29, 2021.

P34. Stadler LB. C19HCC Healthcare Coalition Response series webinar: Innovations in Wastewater-Based Epidemiology for Monitoring SARS-CoV-2. **MITRE Webinar**. November 18, 2020.

P35. Stadler LB, Delgado Vela J, and Ali P. Realities and Impacts of Climate Change on the Water Environment. "Impact of Frequent Storms and Hurricanes on Existing Wastewater Infrastructure in Large Cities and Mitigation of the Adverse Impacts Including Water Reuse." **Water Environment Federation Technical Exhibition and Conference (WEFTEC)** 2020. Virtual Conference. October 7, 2020.

P36. Stadler LB. Trends in Water & Wastewater Treatment: Challenges, Innovation and Progress: Plenary Session and Panel Discussion. **AIChE 2020 Spring Meeting**. "Partnership between Rice and City of Houston to Advance Sustainable and Resilient Water Systems." Virtual Conference. August 18, 2020.

P37. Stadler LB. Department Seminar: Science to Action: Using wastewater monitoring of SARS-CoV-2 to inform interventions in Houston, TX. Department of Civil and Environmental Engineering, **University of Massachusetts at Amherst**. October 16, 2020.

P38. Stadler LB. Spatial and Temporal Surveillance of Houston's Wastewater to Track Community SARS-CoV-2 Infection Dynamics. Global Health and Environmental Matrices in a Sustainable Earth Session. **Geological Society Annual Meeting 2020**. Virtual Conference. October 27, 2020.

P39. <u>Stadler LB.</u> Spatial and Temporal Surveillance of Houston's Wastewater to Track Community SARS-CoV-2 Infection Dynamics. **Ken Kennedy Institute Data Science Conference 2020 Keynote Speaker**. Virtual Conference. October 26, 2020.

P40. Zappi P, <u>Stadler LB</u>, and Hopkins L. Tracking COVID Virus in the City of Houston's Wastewater System. **Water Environment Association of Texas**. Webinar. August 4, 2020.

P41. <u>Stadler LB</u>. Surveillance for SARS-CoV-2 Using Wastewater—A Leading Edge Indicator. **Oak Ridge Associated Universities (ORAU) Impact Webinar**. July 21, 2020.

P42. <u>Stadler LB</u>. Surveillance of wastewater to track community COVID-19 infection dynamics. **COVID-19 International Research Team (COV-IRT) 2nd Research Symposium**. Virtual Symposium. July 17, 2020. https://www.cov-irt.org/symposium-2/.

P43. <u>Stadler LB.</u> Texas Coast Update – Post Harvey: Microbial Contaminants in Harvey's Wake: Bacteria and Antibiotic Resistance Genes in Floodwaters. Houston Museum of Natural Science, Houston, TX, August 27, 2019.

P44. <u>Stadler LB.</u> From Basic Biology to One Health: How Research Funded by the National Science Foundation Addresses the Crucial Health Challenge of Antimicrobial Resistance. **Capitol Hill Briefing by the Federation of American Societies for Experimental Biology.** Washington, D.C., June 4, 2019.

P45. <u>Stadler LB.</u> Department Seminar: Understanding the Dissemination Antibiotic Resistance in the Environment: From Exposures to Treatment Technologies. Department of Civil and Environmental Engineering, Howard University, Washington, D.C., April 18, 2019.

P46. <u>Stadler LB.</u> Anaerobic Membrane Bioreactors for Energy and Water Recovery from Domestic Wastewater. **8th Annual Water Environment Association of Texas (WEAT) Eckenfelder Lecture Series**, University of Houston, Houston, TX, July 26, 2018.

P47. <u>Stadler LB.</u> Flooding, Water Reuse and Resource Recovery: Trends and Opportunities. **Baker Institute Forum and Workshop**, Rice University's Baker Institute, Houston, TX, September 14, 2017.

P48. <u>Stadler LB.</u> Departmental Seminar: Elucidating the Impact of Low Dissolved Oxygen Wastewater Treatment on Pharmaceutical Fate. Department of Civil and Environmental Engineering, University of Southern California, Los Angeles, CA, April 15, 2016.

P49. <u>Stadler LB.</u> Departmental Specialty Seminar: Navigating Sustainability Tradeoffs to Advance Energy Efficient Wastewater Treatment. Department of Civil and Environmental Engineering, Rice University, Houston, TX, March 9, 2015.

<u>Conference Preprints of Extended Abstracts</u>

P50. Liu L, Zhou X, Duenas-Osorio L, <u>Stadler LB</u>, Li Q. (2020) Distributed urban water system enhances system resilience to disruptive incidents. **AGU Fall Meeting Abstracts**, Virtual Conference, December, 2020.

P51. Masiello CA, Silberg JJ, <u>Stadler LB</u>, Shis D, Fulk EM, Del Valle I, Gao X, Lu LC. (2020) Synthetic biology can pair with omics to understand mechanisms driving marine biogeochemical cycles. **Ocean Sciences Meeting of American Geophysical Union**, San Diego, CA, 2020.

P52. Liu L, Lopez E, Duenas-Osorio L, <u>Stadler LB</u>, and Li Q. (2018) Alternative water supply from wastewater reuse, a case study for the City of Houston, TX. **AGU Fall Meeting Abstracts** 2018, Washington, DC, December, 2018.

P53. Delgado Vela J, Martin K, McFarland A, Beaton N, <u>Stadler LB</u>, Skerlos S, Raskin L, Bott C, and Love NG. Removing nitrogen from effluents of anaerobic wastewater treatment processes: Understanding control and operation through biofilm modeling. **Preprints of Extended Abstracts, American Chemical Society National Meeting**, Washington, DC, 2015.

<u>Oral Presentations</u>

P54. LaTurner ZW**, Dysart M**, Schwartz S, Chappell J, Silberg J, <u>Stadler LB</u>. RNA-Addressable Memory Identifies Bacteriophage Host Range in Microbial Communities. **7th International Conference on Microbiome Engineering.** Sommerville, MA. November 12-14, 2024.

P55. Ali P**, Carlson-Stadler R, Xu G*, Musaazi I, Delgado Vela J, Morrison J, Liu L, Christenson D, Shaw A, and <u>Stadler LB</u>. Biofilm enabled resiliency in wastewater treatment to extreme wet weather events. **2024 Texas Water**. Fort Worth, TX. April 9-12, 2024.

P56. Silberg JJ, Kalvapalle PB, Staubus A, Dysart MJ, Gambill L, Reyes Gamas K, Lu LC, <u>Stadler LB,</u> and Chappell J. Tracking horizontal gene transfer in microbiomes using RNA memory. **AIChE Microbiome Engineering Conference.** Berkeley, CA. December 9, 2023.

P57. <u>Stadler LB</u>, Hopkins L, Ensor KB, Schneider R, Domakonda K. SARS-CoV2 and Influenza Wastewater Epidemiology Monitoring in Houston. **2023**. **Texas DSHS Respiratory Disease Conference** Austin, TX. August 17-18, 2023.

P58. Wu J, <u>Stadler LB</u>. Houston's wastewater monitoring of SARS-CoV-2, influenza, RSV, and mpox for infectious disease surveillance. **SIMB Annual Meeting 2023**. Minneapolis, MN. July 30 – August 2, 2023.

P59. Reyes Gamas K**, Kalvapalle PB**, Staubus A, Dysart MJ**, Gambill L, Lu LC, Silberg JJ, <u>Stadler LB</u>, and Chappell J. Information storage across a microbial community using universal RNA memory. **Gordon Research Seminar in Synthetic Biology.** Newry, ME. July 16-21, 2023.

P60. Dysart M**, Kalvapalle PB**, Staubus A, Gambill L, Lu LC, Reyes Gamas K, Chappell J, Silberg JJ, and <u>Stadler LB</u>. Tracking Horizontal Gene Transfer in Wastewater Microbiomes Using RNA Memory. **2023 AEESP Research and Education Conference.** Boston, MA. June 20-23, 2023.

P61. Ali P**, Carlson-Stadler R, Xu G*, Musaazi I, Delgado Vela J, Morrison J, Liu L, Christenson D, Shaw A, and <u>Stadler LB</u>. Resilience of wastewater biofilm systems in simulated extreme wet weather conditions. **2023 AEESP Research and Education Conference.** Boston, MA. June 20-23, 2023.

P62. Zhou S**, Lou E**, and <u>Stadler LB</u>. Wastewater surveillance of carbapenem-resistant bacteria and carbapenemase genes: comparison of culture- and ddPCR-based approaches. **2023 AEESP Research and Education Conference.** Boston, MA. June 20-23, 2023.

P63. LaTurner ZW, <u>Stadler LB</u>. Deployment of a CRISPR-associated transposon system to engineer an acid fermenter microbial community for resource recovery. **2023 AEESP Research and Education Conference.** Boston, MA. June 20-23, 2023.

P64. LaTurner ZW**, <u>Stadler LB</u>. Deployment of a CRISPR-associated transposon system to engineer an acid fermenter microbial community for resource recovery. **ASM Microbe 2023**. Houston, TX. June 15-19, 2023.

P65. Fu Y, Lou E**, Wang Q, Treangen T, and <u>Stadler LB</u>. Identification of bacterial hosts of antibiotic resistance genes in wastewater using metagenomics and single-cell encapsulation methods. **ASM Microbe 2023** (Lightning talk). Houston, TX. June 15-19, 2023.

P66. Bauhs L, McCall C, and <u>Stadler LB</u>. Wastewater surveillance for monitoring COVID-19 and other infectious diseases in Houston, TX. **Texas Water 2023**. Houston, TX. April 13, 2023.

P67. Sapoval N, Liu Y, Lou EG**, Hopkins L, Ensor K, Schneider R, <u>Stadler LB</u>, and Treangen T. QuaID: Enabling earlier detection of recently emerged SARS-CoV-2 Variants of Concern in Wastewater. **ASM Conference on Rapid Applied Microbial Next-Generation Sequencing and Bioinformatic Pipelines**. Baltimore, MD. October 16-19, 2022.

P68. <u>Stadler LB</u>, Wolken M**, McCall C, Sun T**, Ensor KB, Hopkins L, Caton K, and Schneider R, Hundley C, Kalvapalle P, Persse D, and Williams S. K-12 school wastewater monitoring of SARS-CoV-2 and influenza to support public health response. **American Chemical Society National Meeting**. Chicago, IL. August 24, 2022.

P69. <u>Stadler LB</u>, McCall C, Sun T**, Ensor KB, Hopkins L, Caton K, and Schneider R. K-12 school wastewater monitoring of SARS-CoV-2 and influenza to support public health response. **AEESP Research and Education Conference**, St. Louis, MO. June 28-30, 2022.

P70. McCall C, Elworth L, Dyson K*, Doughty R*, Hopkins L, and <u>Stadler LB</u>. Probe-based capture sequencing for detection of vertebrate viruses in wastewater for public health surveillance. **AEESP Research and Education Conference**, St. Louis, MO. June 28-30, 2022.

P71. Musaazi, I, Brown M, Ali P**, Christenson D, Shaw A, Liu L, <u>Stadler LB</u>, and Delgado Vela J. Defining resilience of wastewater infrastructure using long-term sensor-based performance data. **WEF Innovations in Process Engineering Conference**. Miami, FL. June 22, 2022.

P72. Delgado Vela J, Musaazi I, Brown M, Ali P, Christenson D, Shaw A, Liu L, and <u>Stadler LB</u>. Defining resilience of wastewater infrastructure under extreme wet weather events**. Gulf of Mexico Conference (GOMCON)**. Baton Rouge, LA. April 26, 2022.

P73. Al-Faliti M, Kotlarz N, McCall C. Harris A, Smith AL, <u>Stadler LB</u>, de los Reyes III F, and Delgado Vela J. Identifying thresholds for public health action: rate of change in SARS-CoV-2 wastewater and clinical surveillance results from four major metropolitan areas in the US., **Wastewater Surveillance for SARS-CoV-2: Fall RCN Meeting**. November 3, 2021.

P74. Crosby T**, Impelman K*, and <u>Stadler LB</u>. Harnessing Conjugation Systems for Engineering Microbes and Promoting Bioremediation through the Spread of *bphC* Dioxygenase Activity. Virtual Conference: **9th IWA Microbial Ecology and Water Engineering Specialist Conference: Microbial Ecology Data & Principles for Water Systems and Industries.** October 18-20, 2021.

P75. Kalvapalle PB**, LaTurner ZW**, Zong DM, Ensor K, Clark JR, Mojica L, Terwilliger AL, Zhuo Y, Ali P**, Avadhanula V, Reyes Gamas K**, Crosby T**, Bertolusso R, <u>Stadler LB</u>. Developing methods for CoV-2 detection and predicting clinical positivity rate from Houston wastewater. **NSF Research Coordination Network Webinar**, November 18, 2020.

P76. LaTurner ZW** and <u>Stadler LB</u>. (2020) Creating a niche for the preferential growth of purple non-sulfur bacteria: A source of single cell protein. **ACS Fall 2020 Virtual Meeting & Expo.** On-Demand Virtual Talk. August 17-20, 2020.

P77. Masiello CA, Silberg JJ, <u>Stadler LB</u>, Del Valle I, Fulk EM, Gao X, and Bennett GN. New Synthetic Biology Tools to Understand Microbial Processes in Soils and Sediments. **Goldschmidt Conference**. Barcelona, Spain, August 18-23, 2019.

P78. Liu L, Lopez E, Dueñas-Osorio L, <u>Stadler LB</u>, Xie Y, Alvarez PJJ, and Li Q. Vision for urban water system of the future, Strategic Asset Management Symposium, Houston, TX, August 15, 2019.

P79. Lou E**, Smith AL, <u>Stadler LB</u>. Antibiotic Resistance Gene Fate during Co-treatment of Domestic Wastewater and Livestock Manure in an Anaerobic Membrane Bioreactor. **IWA Anaerobic Digestion Conference 16,** Delft, Netherlands, June 23-27, 2019.

P80. Zarei-Baygi A, Wang P, Harb M, <u>Stadler LB</u>, and Smith AL. Evaluating antibiotic resistance proliferation in anaerobic membrane bioreactors under different antibiotic exposure conditions. **IWA Anaerobic Digestion Conference 16**, Delft, Netherlands, June 23-27, 2019.

P81. Yu P**, Zaleski A**, <u>Stadler LB</u>. Elevated Levels of Pathogenic Indicator Bacteria and Antibiotic Resistant Genes after Hurricane Harvey's Flooding in Houston. **AEESP Research and Education Conference**, Tempe, AZ, May 14-16, 2019.

P82. Liu L, Lopez E, Dueñas-Osorio L, <u>Stadler LB</u>, Xie Y, Alvarez PJJ, and Li Q. Implications of decentralizing urban water supply infrastructure via direct potable water reuse. **AEESP Research and Education Conference**, Tempe, AZ, May 14-16, 2019.

P83. Smith AL and <u>Stadler LB</u>. Mitigating human health risks and enhancing water sustainability: evaluating antibiotic resistance in anaerobic wastewater treatment. **FY18 Soil and Water PD Annual Meeting for National Institute of Food and Agriculture**, Newark, DE, October 1-3, 2018.

P84. Zarei-Baygi A, Harb M, Wang P, <u>Stadler LB</u>, and Smith AL. Investigation of anaerobic membrane bioreactor (AnMBR) potential to reduce antibiotic resistance proliferation and promote wastewater reuse. **ACS National Meeting & Exposition** (Nanoscience, Nanotechnology & Beyond). Boston, MA, August 19-21, 2018.

P85. Liu L, Lopez E, Dueñas-Osorio L, <u>Stadler LB</u>, Xie Y, Alvarez PJJ, and Li Q. Alternative water supply from wastewater reuse for the City of Houston, Tsinghua University, Beijing, China, June 18, 2018.

P86. Smith AL, Rice EW**, Zarei-Baygi A, Harb M, Wang P, Lou E**, and <u>Stadler LB</u>. Fate of antibiotic resistance genes and bacteria in bench-scale anaerobic membrane bioreactors for agricultural reuse. **Water Research Foundation Conference**. Atlanta, GA, May 6-8, 2018.

P87. <u>Stadler LB</u>, Li J, Deshmukh A, Falinski M, Elimelech M, Li Q, and Zimmerman JB. Life cycle energy analysis of nano-enabled solar membrane distillation for drinking water supply. **Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference**. Ann Arbor, MI, June 20 – 22, 2017.

P88. Rice EW**, Cheng HS, Silberg J, and <u>Stadler LB</u>. In Situ Gas Detection Indicates Gene Transfer Events. **Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference**. Ann Arbor, MI, June 20 – 22, 2017.

P89. Zarei Baygi A, <u>Stadler LB</u>, and Smith AL. Comparative evaluation of antibiotic resistance in full-scale activated sludge systems and bench-scale anaerobic membrane bioreactor. **Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference**. Ann Arbor, MI, June 20 – 22, 2017.

P90. Becker A, Yu K, <u>Stadler LB</u>, and Smith AL. Life cycle evaluation of the co-management of domestic wastewater and food waste using anaerobic membrane bioreactors. **13th IWA Leading Edge Conference on Water and Wastewater Technologies**, Florianopolis, Brazil, May 30-June 1, 2017.

P91. <u>Stadler LB</u> and Love NG. Associations between Microbial Community Activity, Pharmaceutical Biotransformation Rates, and DO Concentration in Wastewater Treatment.

Microbial Ecology and Water Engineering and Biofilms International Water Association Specialist Conference, Copenhagen, Denmark, September 4 – 7, 2016.

P92. Stadler LB, Delgado Vela J, and Love NG. Impact of low dissolved oxygen and microbial community on pharmaceutical biotransformations during wastewater treatment. **Proceedings of the 88th Annual Water Environment Federation Technical Exhibition and Conference**, Chicago, IL, September 26 - 30, 2015.

P93. Stadler LB, Delgado Vela J, and Love NG. Elucidating the relationship between wastewater treatment plant microbial diversity and pharmaceutical fate. **Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference**. New Haven, CT, June 13 – 16, 2015.

P94. Stadler LB, Su L, Aga DS, and Love NG. Understanding the impact of low dissolved oxygen treatment on nitrifier community characteristics and micropollutant fate. **4th International Conference on Occurrence, Fate, Effects, and Analysis of Emerging Contaminants in the Environment**. Iowa City, IA, August 19 – 22, 2014.

P95. Stadler LB, Su L, Aga DS, and Love NG. Understanding the impact of low dissolved oxygen treatment on nitrifier community characteristics and micropollutant fate. **American Chemical Society (ACS) National Meeting.** San Francisco, CA, August 10 – 14, 2014.

P96. Stadler LB, Smith AL, Jain AK, Martin KJ, Delgado Vela J, Puente P, Cao L, Frenette S, Bott CB, Rauch-Williams T, Shimada T, Salveson A, Love NG, Raskin L, and Skerlos SJ. Integrating life cycle assessment and experimental research: Evaluating anaerobic membrane bioreactors in domestic wastewater treatment for energy recovery. **Borchardt Conference**. Ann Arbor, MI, February 25 – 26, 2014.

P97. Stadler LB, Smith AL, Cao L, Love NG, Raskin L, and Skerlos SJ. Life cycle comparison of emerging and established wastewater energy recovery systems. In Mainstream Anaerobic Treatment Systems for Energy Neutral Wastewater Management Workshop at the **86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)**, Chicago, IL, October 5 – 9, 2013.

P98. Stadler LB, Smith AL, Cao L, Love NG, Raskin L, and Skerlos SJ. Energy recovery from wastewater: Life cycle comparison of carbon removal technologies upstream of autotrophic nitrogen removal. **IWA/WEF Nutrient Removal and Recovery 2013: Trends in Resource Recovery and Use**, Vancouver, Canada, July 28 – 31, 2013.

P99. Moline CJ, Stadler LB, Su L, Ernstoff AS, Dapcic AD, Delgado Vela J, Aga DS, and Love NG. Pharmaceutical fate under varying redox treatment environments. **Proceedings of the 85th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)**, New Orleans, LA, September 29 - October 3, 2012.

P100. Smith AL, Stadler LB, Cao L, Love NG, Raskin L, and Skerlos SJ. Performance and environmental impacts of anaerobic membrane bioreactor for low-strength wastewater treatment, **Proceedings of the 85th Annual Water Environment Federation Technical**

Exhibition and Conference (WEFTEC), New Orleans, LA, September 29 - October 3, 2012.

Poster Presentations

P1. Dysart MJ**, Staubus A, Kalvapalle P**, LaTurner ZW**, Reyes Gamas K**, Fanf L, Chappell J, Silberg JJ, <u>Stadler LB</u>. Species linked transcriptomics: a platform technology to improve transcriptomics studies within microbial communities. **7th International Conference on Microbiome Engineering**, Somerville, MA, November 12-14, 2024.

P2. Ali P**, Delgado Vela J, Liu L, Shaw A, and <u>Stadler LB</u>. Wastewater biofilm function and nitrifier community are resilient in extreme wet weather conditions. **19th Symposium of International Society for Microbial Ecology (ISME)**, Cape Town, South Africa, August 18-23, 2024.

P3. Dysart M**, <u>Stadler LB</u>, and Silberg JJ. Multiplexing RNA Addressable Memory to Characterize Synthetic Circuits in Microbial Communities. **AIChE 6th International Microbiome Engineering Conference.** Berkeley, CA. December 9, 2023.

P4. LaTurner Z** and <u>Stadler LB</u>. Deployment of a CRISPR-associated transposon system to engineer an acid fermenter microbial community for resource recovery. **AIChE 6th International Microbiome Engineering Conference.** Berkeley, CA. December 9, 2023.

P5. Kalvapalle PB**, Staubus A, Dysart MJ**, Gambill L, Reyes Gamas K**, Chieh Lu L, Silberg JJ, <u>Stadler LB</u>, Chappell J. Metataxonomic memory: Consortia-scale information storage within the 16S rRNA of an environmental microbiome using a ribozyme. **Synthetic biology: Engineering, Evolution and Design (SEED)**. Los Angeles, CA. May 30, 2023.

P6. Kalvapalle PB**, Staubus A, Dysart MJ**, Gambill L, Reyes Gamas K**, Chieh Lu L, Silberg JJ, <u>Stadler LB</u>, Chappell J. Sensitive detection of conjugation in wastewater by tagging the 16s rRNA using a ribozyme. **Houston Regional Ecology and Evolution Symposium**. Houston, TX. May 5, 2023.

P7. Reyes Gamas K**, Kalvapalle PB**, Staubus A, Dysart MJ**, Gambill L, Lu LC, Silberg JJ, <u>Stadler LB</u>, and Chappell J. Information storage across a microbial community using universal RNA memory. **Gordon Research Conference in Synthetic Biology.** Newry, ME. July 16-21, 2023.

P8. Kalvapalle P**, Gambill L, Staubus A, Dysart M, Reyes Gamas K, Lu LC, Chappell J, Silberg JJ, and <u>Stadler LB</u>. Sensitive detection of conjugation in wastewater by tagging 16S rRNA using a ribozyme. **International Symposium on Microbial Ecology** (ISME), Laussane, Switzerland, August 14-19, 2022.

P9. LaTurner Z** and <u>Stadler LB</u>. Bottom-up engineering of an acid fermenter community for resource recovery. **International Symposium on Microbial Ecology** (ISME), Laussane, Switzerland, August 14-19, 2022.

P10. Crosby T**, Impelman K*, and <u>Stadler LB</u>. Harnessing Conjugation Systems for Engineering Microbes and Promoting Bioremediation through the Spread of bphC Dioxygenase Activity. **AEESP Research and Education Conference**, St. Louis, MO. June 28-30, 2022.

P11. Ali P**, Lu K*, Musaazi I, Delgado Vela J, Morrison J, Liu L, Christenson D, Shaw A, Zappi P, Niang A, and <u>Stadler LB</u>. Assessing the Resilience of Biofilm Technologies in Water Resource Recovery Facilities During Extreme Wet Weather Conditions. **AEESP Research and Education Conference**, St. Louis, MO. June 28-30, 2022.

P12. Al-Faliti M, Kotlarz N, McCall C, Harris A, Smith AL, <u>Stadler LB</u>, de los Reyes F, and Delgado Vela J. Comparing rates of change in SARS-CoV-2 wastewater load and clinical cases in 19 sewersheds across four major metropolitan areas in the United States. **AEESP Research and Education Conference**, St. Louis, MO. June 28-30, 2022.

P13. Elworth RL, Doughty R*, Dyson K*, Treangen TJ, and <u>Stadler LB</u>. Pathogen Monitoring with Expanded Wastewater-based Epidemiology, **GCC Keck Annual Research Conference**, BRC Building, October 22, 2021. (1st place poster award)

P14. LaTurner, ZW** and <u>Stadler LB</u>. Altering the Solar Spectrum to Create a Niche for Preferential Growth of Purple-Non Sulfur Bacteria, an Advantageous Animal Feed. **A&WMA ACE 2020 Virtual Conference.** June 30 – July 2, 2020.

P15. Masiello CA, Silberg JJ, <u>Stadler LB</u>, Shis D, Del Valle I, Fulk E, Gao X, Lu LC. Translating Synthetic Biology Tools into Geobiology. **Gordon Research Conference – Geobiology**. Galveston, TX, January 12-17, 2020.

P16. Kalvapalle P**, Silberg JJ, <u>Stadler LB</u>. Using Microbial Memory to Record Horizontal Gene Transfer Events in Situ. **Synthetic Biology: Engineering, Evolution & Design Conference**, New York, NY, June 23-27, 2019.

P17. Wang P, Harb M, Zarei-Baygi A, <u>Stadler LB</u>, and Smith AL. Cell-associated and extracellular antibiotic resistance gene profile in AnMBR effluent under elevated antibiotic conditions. **IWA Anaerobic Digestion Conference 16**, Delft, Netherlands, June 23-27, 2019.

P18. LaTurner ZW**, Bennett GN, San K, and <u>Stadler LB</u>. Two stage process for the production of single cell protein by purple phototrophic bacteria from food waste. **AEESP Research and Education Conference**, Tempe, AZ, May 14-16, 2019.

P19. Lou EG**, Baker L*, Smith AL, <u>Stadler LB</u>. Evaluating the Fate of Antibiotic Resistance in An AnMBR Co-Treating Domestic Wastewater and Livestock Manure. **AEESP Research and Education Conference**, Tempe, AZ, May 14-16, 2019.

P20. Wang P, Harb M, Zarei-Baygi A, <u>Stadler LB</u>, and Smith AL. The effect of elevated antibiotic levels on cell-associated and extracellular antibiotic resistance genes in AnMBR effluent. **AEESP Research and Education Conference**, Tempe, AZ, May 14-16, 2019.

P21. Zarei-Baygi A, Harb M, Wang P, Stadler LB, and Smith AL. Role of membrane foulant layers in antibiotic resistance gene fate from anaerobic membrane bioreactors. **AEESP Research and Education Conference,** May 14-16, Tempe, AZ, May 14-16, 2019.

P22. Liu L, Lopez E, Dueñas-Osorio L, Stadler LB, Xie Y, Alvarez PJJ, and Li Q. Implications of decentralizing urban water supply infrastructure via direct potable water reuse (DPR), **American Geophysical Union Fall meeting**, Washington, D.C., December 10-14, 2018.

P23. Gutierrez Y*, Rice EW**, Silberg J, and Stadler LB. Quantifying Antibiotic Resistance Gene Transfer in Wastewater. **The Society of Hispanic Professional Engineers National Convention.** Cleveland, OH, November 7 – 11, 2018.

P24. Kavalpalle P**, Stadler LB, and Silberg J. Probing genetic memory with real-time qPCR for environmental biosensing. **Innovation Symposium, Department of Bioengineering**, Rice University. Houston, TX, September 7, 2018.

P25. Rice EW**, Cheng HS, Gutierrez Y*, Silberg J, and Stadler LB. In situ detection of conjugative transfer of broad-host range plasmids containing antibiotic resistance genes. **17th International Symposium on Microbial Ecology**, Leipzig, Germany, August 12-17, 2018.

P26. Smith AL and Stadler LB. Mitigating human health risks and enhancing water sustainability: evaluating antibiotic resistance in anaerobic wastewater treatment. **FY17 Soil and Water PD Annual Meeting for National Institute of Food and Agriculture**, Washington D.C., January 29-31, 2018.

P27. Brower AM**, Li J, Smith AL, and Stadler LB. LCA of feed production using algae-based nutrient recovery from domestic wastewater. **Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference.** Ann Arbor, MI, June 20 – 22, 2017.

P28. Stadler LB, Brower AM**, Li J, and Smith AL. Rethinking wastewater treatment plants as biosynthesis factories for up-cycling water, energy, and nutrients. **NAE 2017 German-America Frontiers of Engineering Conference**, Evendale, OH, March 31 – April 2, 2017.

P29. **Stadler LB**, Delgado Vela J, and Love NG. Elucidating the relationship between wastewater treatment plant microbial diversity and pharmaceutical fate. **American Chemical Society 115th General Meeting**, New Orleans, LA, May 30 – June 2, 2015.

P30. Stadler LB, Su L, Aga DS, and Love NG. Impact of dissolved oxygen concentration on pharmaceutical biotransformations during wastewater treatment. **Engineering Graduate Symposium,** University of Michigan, Ann Arbor, MI, November 15, 2013. (1st place in Civil & Environmental Engineering track poster competition)

P31. Stadler LB, Su, L, Aga DS, and Love NG. Impact of redox environment and microbial populations on pharmaceutical biotransformation during wastewater treatment. **Proceedings of the 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)**, Chicago, IL, October 5 – 9, 2013.

P32. Cook SM, Delgado Vela, J, and <u>Stadler LB</u>. Advancing the success of service learning projects from the classroom to the field. **Proceedings of the 86th Annual Water Environment Federation Technical Exhibition and Conference (WEFTEC)**, Chicago, IL, October 5 – 9, 2013.

P33. <u>Stadler LB</u>, Smith AL, Cao L, Love NG, Raskin L, and Skerlos SJ. Life cycle comparison of emerging and established wastewater energy recovery systems. **Association of Environmental Engineering and Science Professors (AEESP) 50th Anniversary Conference**. Golden, CO, July 14 – 16, 2013.

P34. Cook SM, Delgado Vela J, and <u>Stadler LB</u>. Advancing the success of service learning projects from the classroom to the Field. **Association of Environmental Engineering and Science Professors (AEESP) 50th Anniversary Conference**. Golden, CO, July 14 – 16, 2013.

P35. Delgado Vela J, <u>Stadler LB</u>, and Love NG. Elucidating biotransformation of pharmaceuticals by methanotrophic bacteria. **Association of Environmental Engineering and Science Professors (AEESP) 50th Anniversary Conference**. Golden, CO, July 14 – 16, 2013.

P36. <u>Stadler LB</u>, Su, L, Stevens L, Delgado Vela J, Aga DS, and Love NG. Impact of redox environment and microbial populations on pharmaceutical biotransformation. **IWA 5th International Conference on Microbial Ecology and Water Engineering**, Ann Arbor, MI, July 7 – 10, 2013.

P37. <u>Stadler LB</u>, Moline CJ, Ernstoff AS, Su L, Dapcic AD, Aga DS, and Love NG. Pharmaceutical fate in biological treatment reactors across varying redox environments. **Gordon Research Conference, Environmental Science: Water.** Holderness, NH, June 25 – 29, 2012.

P38. Rimer SP, <u>Stadler LB</u>, and Alfaro JF. Excellence in higher education for Liberian development. **Engineering Graduate Symposium**, University of Michigan, Ann Arbor, MI, November 11, 2011. (2nd place in Civil & Environmental Engineering track poster competition)

P39. <u>Stadler LB</u> and Dhar DW. Nitrogen and phosphorous scavenging potential in microalgae isolated from treated municipal wastewater effluents in New Delhi. **Engineering Graduate Symposium**, University of Michigan, Ann Arbor, MI, November 12, 2010.

3. TEACHING AND ADVISING

3.1. Courses

2016 – present	CEVE 444/544 Environmental Microbiology and Microbial Ecology (new course)
	(upper level undergraduate and graduate, 3 credits)
	Typically 10 – 25 students

Taught: Fall 2016, Fall 2017, Fall 2018, Fall 2018, Spring 2023, Fall 2024

2021 – present   CEVE 315 Urban Water Systems (3 credits) (new course)
CEVE 316 Urban Water Systems Laboratory (1 credit)
Typically 15 – 25 students; Co-taught with Bezawit Getachew
Taught: Spring 2021, Spring 2022, Spring 2023, Spring 2024, Spring 2025

2019   CEVE 401/501 Environmental Chemistry
(undergraduate and graduate, 3 credits)
Typically 12 - 18 students; Co-taught with Mason Tomson
Taught: Spring 2019

2017   CEVE 442 Environmental Process Engineering (new course)
(undergraduate, 3 credits)
Typically 6 – 12 students
Taught: Spring 2017

3.2. Supervision of Graduate Students

Student Awards

R. Neckles   National Science Foundation Graduate Research Fellowship, 2023

P. Ali   Water Environment Federation Canham Graduate Scholarship, 2023
Water Environment Association of Texas (WEAT) Scholarship, 2024
WEAT Walter E Chang Endowment Scholarshio, 2024

Z. LaTurner   Environmental Research & Education Foundation (EREF) Scholarship, 2020

Current Ph.D. Students

Z. LaTurner   Topic: "Improving persistence and propagation of exogenous functional genes in a microbial community and its application in a resource recovery process"
NSF Bioelectronics Research Traineeship participant
Expected Graduation: March 2025

M. Dysart   Topic: "Expansion of the Broad Host Promoter Libraries"
SSPB student; Co-advised with Joff Silberg
NSF Bioelectronics Research Traineeship participant
Expected Graduation: August 2025

S. Zhou	Topic: "Wastewater surveillance for multidrug resistant pathogens" Expected Graduation: May 2026
M. Wolken	Topic: "Assessing scale and frequency of wastewater surveillance for enteric pathogens" Expected Graduation: May 2028
L. Metsker	Topic: "Engineering *Vibrio natriegens* for *in situ* wastewater surveillance" Expected Graduation: May 2028
E. Zeng	Topic: "Phage host range for microbiome engineering" SSPB student; Co-advised with Joff Silberg Expected Graduation: August 2029
B. Shockey	Topic: TBD SSPB student; Co-advised with Joff Silberg Expected Graduation: August 2029
L. Fang	Topic: TBD SSPB student; Co-advised with Joff Silberg Expected Graduation: August 2029
L. Karinje	Topic: TBD SSPB student; Co-advised with James Chappell Expected Graduation: August 2029

Ph.D. Students: Completed Ph.D, Dissertations

T. Crosby	Topic: "Harnessing Conjugation Systems for Engineering Microbes and Promoting Bioremediation" NSF Bioelectronics Research Traineeship participant Graduation: January 2025
K. Reyes Gamas	Topic: "Uncovering the networks and dynamics of horizontal gene transfer with computationally-designed genetic memory" Co-advised with Joff Silberg NSF Bioelectronics Research Traineeship participant Graduation: December 2024
P. Ali	Topic: "Assessing the resiliency of biofilm-based wastewater treatment to extreme wet weather" Graduation: November 2024

P. Kalvapalle	Topic: "Using synthetic biology to record information in DNA and RNA within wastewater microbes and communities" Co-advised with Joff Silberg Graduation: July 2023
E. Lou	Topic: "Advancing methods for wastewater disease surveillance of antibiotic resistance and SARS-CoV-2" Texas Science Policy Fellow, 2020 Graduation: August 2022

Current Masters Students

R. Neckles	Topic: TBD Graduation: May 2025 *NSF GRFP Recipient*

Masters Students: Completed MS Theses

M. Hollstein	Topic: "Microbial Community Dynamics in 110-acre Free Water Surface Constructed Wetland" Graduation: May 2022
E. Rice	Topic: "Evaluating biosensors for the measurement of conjugative transfer in wastewater communities" Graduation: May 2020

Masters Reports: Completed M.C.E.E. Reports

A. Zaleski	Topic: "Bacteria and Antibiotic Resistant Genes after Hurricane Harvey's Flooding in Houston" Graduation: May 2018
C. Simmons-Pino	Topic: "Recycled Wastewater" Graduation: May 2017

3.3. Supervision of Undergraduate Students

Undergraduate Research Assistant Supervision: Continuing Work

Student name:	Sienna Yiin
Dates of supervision:	2023 – present
Project description	Wastewater disease monitoring

Student name:	Tobenna Esomeju

Dates of supervision: 2024 – present
Project description   Wastewater disease monitoring

Student name: Christian Diaz
Dates of supervision: 2024 – present
Project description   Wastewater disease monitoring

Student name: Ellery Underhill
Dates of supervision: 2024 – present
Project description   Wastewater disease monitoring

Student name: Jenny Karsner
Dates of supervision: 2024 – present
Project description   Wastewater disease monitoring

Undergraduate Research Assistant Supervision: Completed Work

Student name: Julia Cavalcanti
Dates of supervision: 2023 – 2024
Project description   Wastewater disease monitoring

Student name: Oliver Sites
Dates of supervision: 2023 – 2024
Project description   Wastewater disease monitoring

Student name: Audrey Arroyave
Dates of supervision: Summer 2023
Project description   Environmental microbiome engineering

Student name: Guomin Xu
Dates of supervision: 2023 – 2024
Project description   Quantifying resilience of biofilm-based wastewater treatment

Student name: Assata Harris
Dates of supervision: Summer 2023
Project description   Environmental microbiome engineering

Student name: Ashley Kase
Dates of supervision: 2023
Project description   Acid fermenter microbial community engineering

Student name: Pedro Garza
Dates of supervision: 2022 – 2023
Project description   Building a horizontal gene tracking plasmid

Student name:	Akshay Shyam
Dates of supervision:	2022 – 2023
Project description	Building a horizontal gene tracking plasmid

Student name:	Katie Impelman
Dates of supervision:	2021 – 2022
Project description	Genetic bioaugmentation using conjugative plasmids

Student name:	Karen Lu
Dates of supervision:	2021 – 2022
Project description	Resilient wastewater treatment systems

Student name:	Junha Lee
Dates of supervision:	2021 – 2023
Project description	Microbial community dynamics in constructed wetlands

Student name:	Kathryn Flanagan
Dates of supervision:	2021
Project description	Microbiome engineering for resource recovery

Student name:	Henry Ulrich
Dates of supervision:	2021
Project description	Resilient wastewater treatment systems

Student name:	Laney Baker
Dates of supervision:	2018 - 2019
Project description	Antibiotic resistance gene fate in anaerobic membrane bioreactors

Student name:	Hugo Estrada
Dates of supervision:	2019
Project description	Resource recovery from wastewater

Student name:	Annie Chen
Dates of supervision:	2019
Project description	Determining hosts of antibiotic resistance genes in wastewater

Student name:	Sophia Grossweiler
Dates of supervision:	2017 - 2018
Project description	Anaerobic membrane bioreactors for resource recovery from wastewater

Student name:	Talia Kramer
Dates of supervision:	2017 - 2018
Project description	Anaerobic membrane bioreactors for resource recovery from wastewater

Student name: Neha Goel
Dates of supervision: 2017
Project description   Determining hosts of antibiotic resistance genes in wastewater

Student name: Siyi Bu
Dates of supervision: 2017
Project description   Methods for determining hosts of antibiotic resistance genes in
                       wastewater

Research Experience for Undergraduates (REU) Supervision: Completed Work

Student name: Katya Escalante
Dates of supervision: 2022
Project description   Harnessing conjugation systems for engineering microbes and
                       promoting bioremediation through the spread of bphC dioxygenase
                       activity

Student name: Selama Tesfamariam
Dates of supervision: 2022
Project description   Measuring conjugative transfer and fitness burden of exogenous
                       plasmids to understand horizontal gene transfer in the environment

Student name: Katie Impelman
Dates of supervision: 2021
Project description   Genetic bioaugmentation using conjugative plasmids for
                       bioremediation

Student name: Yulisa Gutierrez
Dates of supervision: 2018
Project description   Developing gas-reporting biosensors to measure transfer of broad
                       host range plasmids containing antibiotic resistance genes in mixed
                       communities

Student name: Jackeline Cornejo
Dates of supervision: 2017
Project description   Gas-reporting biosensors to measure conjugation

3.4. Supervision of Postdoctoral Scholars

Current Postdoctoral Scholars

J. Wu   Topic: "Laboratory and computational methods for routine
                       wastewater surveillance systems"
                       Dates: 2022 – present

Former Postdoctoral Scholars

P. Kalvapalle	Topic: "Using synthetic biology to record information in DNA and RNA within wastewater microbes and communities" Co-advised with Joff Silberg Dates: 2023 – 2024
C. McCall	Topic: "Wastewater-based epidemiology for disease surveillance" Dates: 2020 – 2023 Placement: GSI Environmental, Inc.
E. Lou	Topic: "Genomic methods for wastewater disease surveillance" Dates: 2022 – 2023 Placement: Veolia
R.L. Elworth	Topic: "Computational methods for pathogen monitoring via environmental surveillance" NLM Training Program Postdoctoral Fellowship Dates: 2020 – 2022
D. Zong	Topic: "Surveillance of SARS-CoV-2 in Houston's Wastewater" Dates: 2020 – 2021 Placement: Novome Biotechnologies
A. Shore	Topic: Impact of wastewater on coral reef microbiomes Co-advised with Adrienne Correa Dates: 2018 – 2020 Placement: Assistant Professor, Farmingdale State College
J. Li	Topic: Nano-enabled membrane distillation LCA Dates: 2016 – 2017 Placement: Nebraska Department of Environmental Quality

3.5. Teaching and Advising Activities – Other

2023	Co-director of CINEMA: Workshop on Clinical and Environmental Metagenome Analysis. Rice Global Paris Center. Paris, France. July 3-10, 2023.
2019 - 2021	Advisor to Visiting Scholar Kuan Liu from Nanjing Agricultural University, China
2017	Faculty Advisor to Aishani De Sirkar, High School Student Researcher

4. SERVICE AND PROFESSIONAL DEVELOPMENT

4.1. Service to the University

Department Committee Service

2024-present	**Member,** Accreditation (ABET/SACS) Committee
2024-present	Department Safety and Lab Issues
2017-present	**Member,** Graduate Studies Committee
2023-2024	**Member**, CEVE Faculty Search Committee
2016-2020; SP2023	**Co-Chair**, CEE Seminar Series (CEVE 601/602)

Service to the College System

2025-present	**Magister**, Hanszen College
2016-2024	**Faculty Associate**, McMurty College

Exam, Thesis, or Dissertation Committee Service

2016-present	**Member,** Ph.D. Committee: Served on committee for the following students: Lauren Howe-Kerr (A. Correa, December 2021); Qi (Maria) Wang (T. Treangen, December 2021); Katheryn Brink (J. Tabor, June 2021); Ilenne Del Valle (J. Silberg, March 2021); Marion Donald (T. Miller, August 2020); Amy Prater (Y. Shamoo, June 2019); Ya He (P. Alvarez, January 2019); Lacey Pyle (C. Masiello, August 2017); Jonathan Dornell (M. Gustin, July 2016); Ruonan Sun (P. Alvarez, July 2022); Peter Zhu (P. Alvarez, July 2022); Alexis Wilkinson (R. Richards-Kortum, May 2023); Cory Schwarz (P. Alvarez, 2023); Yunxi Liu (T. Treangen, 2024); Nicolae Sapoval (T. Treangen, 2024); Pedro Pinto (S. Egan, 2024); Yongze Yin (L. Nakhelh, 2024); Chuncheng Wu (P. Alvarez, 2024); Michael X. Wang (T. Treangen, 2025)
2016-present	**Master's Thesis Committee,** Served on committee for the following students: Manisha Patel (Q. Li, January 2019); Mikaela Mahoney (P. Bedient, April 2016), Durnian Parulski-Seager (B. Getachew, 2023); Eliana Cadena Semante (B. Getachew, 2024); Nicarao Delgado (P. Alvarez, 2024)

University Service

2024-present	**Member,** Faculty Awards Committee
2024-present	**Member,** Water Institute
2024-present	**Associate member,** Synthetic Biology Institute
2020-present	**Member**, Institutional Biosafety Committee
2023-2024	**Member**, SSPB Admissions Committee
2022	**Panelist**, Future Faculty Fellows
2018	**Outside Committee Member,** Biosciences Faculty Search

4.2. –Service to the Discipline/Profession

Committee Duties

2023-present	**Academic member,** National Wastewater Surveillance Utilities Community of Practice
2019-present	**Member**, Student Services Committee, Association of Environmental Engineering and Science Professors (AEESP)

2017-2024	**Member**, Research and Innovation Committee Member, Water Environment Federation (WEF)

Conference Session Organization and Participation

2025	**Conference Co-Chair**, 11th IWA Microbial Ecology and Water Engineering Conference, Atlanta, GA, June 2-5, 2025.
2024	**Organizer and Moderator**, Rice Water Institute Workshop on Opportunities and Challenges for Applying Environmental Engineering Principles to Enhance Human Health and Healthspan, Houston, TX, December 12, 2024.
2024	**Participant**, White House Roundtable on Emerging Technology for Preventing Health Emergencies, Washington, DC, August 27, 2024.
2024	**Organizer and Moderator**, Cross-Sector Wastewater Surveillance Workshop, Water Environment Federation, Houston, TX, May 21, 2024.
2023	**Facilitator and Moderator,** "Future of Wastewater Surveillance " and "Wastewater Surveillance: How Does the Sewer Impact the Data?" WEFTEC 2023, October 2, 2023, Chicago, IL.
2023	**Panelist**, "ASM COVID-19 Virtual Panel on Wastewater Surveillance," May 11, 2023
2022	**Session Chair**, "Viruses and Microbiomes in Buildings or Communities during the Pandemic: Monitoring, Modeling, and Communication" and "Viral, Bacterial, and Physiological Markers in Sewersheds and WWTPs: Monitoring, Modeling, and Communication," AEESP, June 29, 2022.
2022	**Scientific Committee Member**, IWA AD17, Ann Arbor, MI
2021	**Moderator,** "Workshop on Careers in Environmental Engineering and Sciences After Graduate School," AEESP, July 13, 2021.
2019	**Panelist**, "Navigating the Academic Job Search: A workshop for graduate students and postdocs," AEESP, May 14, 2019.

Service as an Editor

2022- present	**Associate Editor**, *Environmental Science: Water Research & Technology*

Service as a Reviewer to the Following Journals or Organizations

Peer-Reviewed Journals
    Aquatic Microbial Technology
    Environmental Pollution
    Environmental Science & Technology
    Environmental Science & Technology Letters
    Environmental Science: Water Research & Technology
    FEMS Microbes
    Frontiers of Environmental Science & Engineering
    Frontiers of Microbiology
    ISME Journal
    Journal of Environmental Management
    Journal of Hazardous Materials

MicrobiologyOpen
New England Journal of Medicine
Nature Communications
PLOS One
PNAS
Science Advances
Science of the Total Environment
Scientific Reports
Waste Management
Water Research
Water Science & Technology

Organizations
AEESP Academic Job Search Workshop 2018
US Frontiers of Engineering Conference Participant, Lexington, MA 2018
German American Frontiers of Engineering Conference Participant, Cincinnati, OH, 2017

Service to the Community/Public

2024	**Review Panelist,** National Science Foundation, CBET Division
2024	**Seminar Speaker**, Houston Community College, Alief-Hayes Campus, Houston, TX, December 10, 2024.
2024	**Keynote Speaker**, Engineers Without Borders Regional Conference, Houston, TX, September 14, 2024.
2023	**Speaker**, Earth Day HTX, Environmental Monitoring Session, April 18, 2023
2023	**Guest,** UCLA GradSWE UCLA Women in Science Youtube channel
2022	**Review Panelist**, National Science Foundation, EFRI ELiS Panel
2022	**Speaker**, Life Enrichment of Houston, Bellaire, TX, October 20, 2022
2016-2020	**Outreach Speaker**, Civic Scientist Program, Rice University's Baker Institute for Public Policy
2020	**Panelist**, ASCE Graduate School Panel Speaker, Rice University, September 29, 2020
2020	**Participant**, "Meet the experts" for University of Michigan Introduction to Ecological Issues, Fall 2020
2020	**Guest**, "Bioinformatics and Beyond" Podcast
2019	**Member**, City of Houston Climate Action Plan Advisory Committee
2018	**Ad-Hoc Reviewer**, National Science Foundation Kansas EPSCoR
2016	**Review Panelist**, National Science Foundation, CBET Division