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Colleen C. Naughton, E.I., PhD

QUALIFICATIONS SUMMARY

Co-designs sustainable Food-Energy-Water Systems for and with the UnderServed (FEWS-US) nationally and globally. Develops and implements methods in Life Cycle Assessment (LCA), Geographic Information Systems (GIS), integration of anthropology and engineering, and science policy. Dr. Naughton has 15+ years' experience in Africa (North and West) and concentration in global water, sanitation, and hygiene, climate, and food security. Professionally proficient in French and fluent in Bambara.

EDUCATION

University of South Florida **May 2016** **Tampa, FL**
PhD in Civil Engineering
Graduate Certificate: Water, Health, and Sustainability
Dissertation: "Modeling Food Security, Energy, and Climate and Cultural Impacts of a Process: the Case Study of Shea Butter in Sub-Saharan Africa."
Major Professor: James R. Mihelcic

University of South Florida **December 2013** **Tampa, FL**
M.S. in Civil Engineering,
Program: Peace Corps Master's International
Concentration: Engineering for International Development
Thesis: "Assessing Appropriate Technology Handwashing Stations in Mali, West Africa." (http://scholarcommons.usf.edu/etd/4833/)
Major Professor: James R. Mihelcic

Purdue University **May 2008** **West Lafayette, IN**
B.S. in Civil Engineering, Concentration: Environmental

HONORS AND AWARDS

2024	AAEES 40 under 40
2023	*FEMS Microbes* Best Paper Award
2023	Distinguished Scholarly Public Service Award, UC Merced Senate
2021	AAEES E3S Grand Prize in University Research
2018	African Sky Chi Wara Distinguished Award
2014-2015	American Association of University Women American Dissertation Fellow
2014	African Sky "Solomon's List" Leadership Award
2014	Department of Education GAANN (Graduate Assistance in Areas of National Need) Fellow at the Water-Energy-Materials-Human-Nexus
2012	University of Florida NSF S-STEM Scholar
2012	Most Supportive Volunteer in Peace Corps-Mali Award
2008	Passed FE Examination, earned EIT
2008	Outstanding Civil Engineering Undergraduate Award at Purdue University

RESEARCH AND ENGINEERING EXPERIENCE

Assistant Professor, UC Merced **Jan. 2019-Present** **Merced, CA**
Designs sustainable and culturally sensitive food-energy-water systems locally, nationally and globally. Develops and utilizes Life Cycle Sustainability Assessment, Geographic Information Systems, and ethnographic methods. Teaches Introduction to Civil and Environmental Engineering and Sustainable Development Engineering.

Science and Technology Policy Fellow, AAAS **Sept. 2017-Dec. 2018** **Washington, DC**
Environmental and Social Systems advisor at the Millennium Challenge Corporation. Advanced their Geospatial Information Systems strategy agency wide and contributed to Morocco, Tunisia, and Togo country teams. Aimed to strengthen compact development and implementation through application of systems and life cycle thinking and enhanced monitoring and evaluation.

Postdoctoral Researcher, USF **Jan. 2016 – Aug. 2017** **Tampa, FL**
Developed, coordinated, and wrote major grant proposals with multidisciplinary teams (engineering, marine science, education and anthropology) and managed existing grants in civil and environmental engineering department. Conducted independent research and publications in peer-reviewed journals related to the global food-energy-water nexus.

Research Coordinator, USF **Jan. 2013 – Dec. 2015** **Tampa, FL**
Organized research, external science advisory board meetings, social media, courses, publicity and reporting for USF NSF Partnerships in International Research and Education (PIRE) and EPA National Center for Reinventing Aging Infrastructure for Nutrient Management. Duties also consisted of grant proposal development and coordination of the USF Peace Corps Master's International Program including mentoring of three graduate students.

Reclaim Developer, USF **Sept. 2013-Aug. 2017** **Tampa, FL**
Social media team member that helped create a strategic plan, website, and international photo and video contest for a global network of researchers and practitioners dedicated to developing geographically-appropriate and culturally relevant engineered systems to recover nutrient, energy, and water resources from waste. http://usf-reclaim.org/

Water, Sanitation and Hygiene Engineer, PC **July 2009-April 2012** **Mali, West Africa**
Facilitated formation of rural village committees in water, sanitation, and hygiene and food security and a women's shea butter cooperative in conjunction with masters and doctorate research in the Peace Corps (PC). Wrote grant proposals, designed and supervised water and sanitation improvement projects including latrines, grey water management, pump rehabilitation and repair, well improvement, and bed net distribution. Held several leadership positions: Gender and Development National coordinator, PC Volunteer Leader, and technical and cultural trainer for incoming volunteers.

PEER-REVIEWED JOURNAL ARTICLES

[1]Graduate Student Researcher (primary adviser), [2]Undergraduate student researcher (primary adviser)

[1] Fox, D.I., Thomas, K.D., Walker, J., **Naughton, C.C.**, Howard, J., Trotz, M.A., Stuart, A.L., Akiwumi, F.A. (2026). Mercury issues in Guyana: Case study of an interdisciplinary research model in graduate sustainability education. *Interdisciplinary Journal of Environmental and Science Education.* 22(3): e2617. DOI: 10.29333/ijese/18735

[2] Daza-Torres, M.L., Cricelio Montesinos-Lopez, J., Olson, R., Bess, C.W., **Naughton, C.C.**, Bischel, H.N., Nuno, M. (2026). Assessing methodological variability in wastewater surveillance: A wavelet decomposition approach. *Epidemics.* 54: 100897. DOI: 10.1016/j.epidem.2026. 100897

[3] Waring, E., Dahlke, H.E., Abatzoglou, J.T., Medellin-Azuara, J., Yost, M.A., Bali, K.M., **Naughton, C.C.**, Putnam, D.H., Sabie, R., Kishore, S., Santos, N.R., Viers, J.H. (2025). Reimagining alfalfa as a flexible crop for water security in the Southwestern USA. *Science of the Total Environment.* 990: 179851. DOI: 10.1016/j.scitotenv.2025.179851

[4] Sharafi, A., Markolf, S., **Naughton, C.C.**, Fortier, M-O.P. (2025). Using life cycle assessment to design emerging electricity generation technologies. *Energy Conversion and Management: X.* 27: 101122. DOI: 10.1016/j.ecmx.2025.101122

[5] Lukkoor, R. [1], **Naughton, C.C.**, Torres, S.M., Heerema, R., Galarza Flores, R.A., Viers, J.H., Fernald, A.G. (2025). A comparative life cycle assessment of drip and flood irrigation of in-shell pecan production in the Mesilla Valley, New Mexico, United States. *Agricultural Water Management.* 315: 109532. DOI: 10.1016/j.agwat.2025.109532

[6] Gebrai, Y. [1], **Naughton, C.C.**, Sanchez, K.D., Bargach, J., Deubel, T.F. (2025). Environmental and social impacts of women's argan oil production in Morocco. *The International Journal of Life Cycle Assessment.* 30: 1415-1434. DOI: 10.1007/s11367-024-02412-9

[7] Ravuri, S., Burnor, E., Routledge, I., Linton, N.M., Thakur, M., Boehm, A., Wolfe, M., Bischel, H.N., **Naughton, C.C.**, Yu, A.T., White, L.A, Leon, T.M. (2025). Estimating effective reproduction numbers using wastewater data from multiple sewersheds for SARS-CoV-2 in California counties. *Epidemics.* 50: 100803. DOI: 10.1016/j.epidem.2024.100803

[8] Salim, K.U., Chan-Golston, A.M., **Naughton, C.C.**, Ha, S., Bradman, A., Joyce, A. (2025). Sterile insect technique and incompatible insect technique, emerging alternatives to insecticides for adult mosquito control. *Journal of Integrated Pest Management.* 16(1): 10. DOI: 10.1093/jipm/pmaf009

[9] Burnor, E., Yu, A.T., Wolfe, M.K…**Naughton, C.C.**, …Vugia, D.J. (2025). Wastewater for public health: timely, sensitive, and reliable SARS-CoV-2 omicron variant monitoring in California. *Environmental Science: Water Research & Technology.* 11 (4): 876-890. DOI: 10.1039/D4EW00845F

[10] Rafi Arefin, M., Prouse, C., Wittmer, J., Amin, N….**Naughton, C.C.**, …Srikantaiah, V. (2025). Making Waves: A justice-centered framework for wastewater-based public health surveillance. *Water Research.* 268(B): 122747. DOI: 10.1016/j.watres.2024.122747

[11] Daza-Torres, M.L., Cricelio Montesinos-Lopez, J., Herrera, C., Garcia, Y.E., **Naughton, C.C.**, Bischel, H.N., Nuno, M. (2024). Optimizing spatial distribution of wastewater-based epidemiology to advance health equity. *Epidemics.* 49: 100804. DOI: 10.1016/j.epidem.2024.100804

[12] Prewitt, K.B., Abatzoglou, J.T., Viers, J.H., **Naughton, C.C.** (2024). Classifying Climate-Suitable Lands in California for Coffee Cultivation. *International Journal of Climatology.* 45: e8690. DOI: 10.1002/joc.8690

[13] Salim, K.U., Alvarez, F.S., Chan-Golston, A.M., **Naughton, C.C.**, Cisneros, R. Joyce, A. (2024). Socioeconomic and environmental factors associated with dengue fever incidence in Guatemala: Risking temperatures increase dengue risk. *PLOS One.* 19(8): e0308271. DOI: 10.1371/journal.pone.0308271

[14] Hauptman, B.H. [1], Harmon, T.C., Nasef, Z., Rosales, A.A. [2], **Naughton, C.C.** (2024). Evaluation of point-of-use treatments and biochar to reduce 1,2,3-trichloropropane (TCP) contamination in drinking water. *PLOS Water.* 3(7): e0000244. DOI: 10.1371/journal.pwat.0000244

[15] Daza-Torres, M.L., Montesinos-López, J.C., Bischel, H.N., **Naughton, C.C.,** Desai, A.N., Wolfe, M.K., Boehm, A.B., Nuño, M. (2024). A mixed-effects model to predict COVID-19 hospitalizations using wastewater surveillance. *Journal of Environmental Chemical Engineering.* 12(2): 112485. DOI: 10.1016/j.jece.2024.112485

[16] Mosher, J.R., Banta, J.E., Spencer-Hwang, R., **Naughton, C.C.,** Kadonsky, K.F. [1], Hile, T., Sinclair, R.G. (2024). An Environmental Equity Assessment Using a Social Vulnerability Index during the SARS-CoV-2 Pandemic for Siting of Wastewater-Based Epidemiology Locations in the United States. *Geographies.* 4(1): 141-151. DOI: 10.3390/geographies4010009

[17] Moyers, K… **Naughton, C.C,**…Viers, J.H. (2023). A Decade of Data-Driven Water Budgets: Synthesis and Bibliometric Review. *Water Resources Research.* 59(11): e2022WR034310. DOI: 10.1029/2022WR034310

[18] Rose, J.B., Hofstra, N., Hollmann, E., Katsivellis, P., Medema, G.J., Murphy, H.M., **Naughton, C.C,** Verbyla, M.E. (2023). Global microbial water quality data and predictive analytics: Key to health and meeting SDG 6. *PLOS Water.* 2(8): e0000166. DOI: 10.1371/journal.pwat.0000166.

[19] Boehm, A.B., Wolfe, M.K., Wigginton, K.R., Bidwell, A., White, B.J., Hughs, B., Duong, D., Chan-Herur, V., Bischel, H.N., **Naughton, C.C.** (2023). Human nucleic acids concentrations in wastewater solids from Central and Coastal California USA. *Nature Scientific Data.*10: 396.

[20] Hauptman, H. [1], **Naughton, C.C.,** Harmon, T.C. (2023). Using machine learning to predict 1,2,3-trichloropropane contamination from legacy non-point source pollution of groundwater in California's Central Valley. *Groundwater for Sustainable Development.* 22: 100955.DOI: 10.1016/j.gsd.2023.100955

[21] Kadonsky, K.F.[1], **Naughton, C.C**…Bischel, H.N. (2023). Expansion of wastewater-based disease surveillance to improve health equity in California's Central Valley: sequential shifts in case-to-wastewater and hospitalization-to-wastewater ratios. *Frontiers in Public Health.* 11: doi: 10.3389/fpubh.2023.1141097.

[22] Keshaviah, A., Diamond, M.B….**Naughton, C.C**…Zanoli Sato, M.I. (2023). Wastewater Monitoring can anchor global disease surveillance systems. *The Lancet Global Health.* 11(6): e976-e981.DOI: 10.1016/S2214-109X(23)00170-5

[23] **Naughton, C.C.**, Holm, R.H., Lin, N.J., James, B.P. [2], Smith, T. (2023). Online dashboards for SARS-CoV-2 wastewater data need standard best practices: an environmental health communication agenda. *Journal of Water and Health.* 21(5): 615-624.

[24] Vaughan, L., Zhang, M….**Naughton, C.C**…Zamyadi, A. (2023). An exploration of challenges associated with machine learning for time series forecasting of COVID-19 community spread using wastewater-based epidemiological data. *STOTEN*. 858(1): 159748.

[25] **Naughton, C.C**, Roman, F.A.R. [2], Jr, Alvarado, A.G.F. [1], Tariqi, A.Q. [2], Deeming, M.A. [2]…Rose, J.B. (2023). "Show us the Data: Global COVID-19 Wastewater Monitoring Efforts, Equity, and Gaps." *FEMS Microbes.* 4: xtad003. DOI: 10.1093/femsmc/xtad003

[26] Daza-Torres, M.L.…**Naughton, C.C.**...Bischel, H.N. (2023). Model training periods impact estimation of COVID-19 incidence from wastewater viral loads. *STOTEN.* 858: 159680. DOI: 10.1016/j.scitotenv.2022.159680

[27] Medina, C.Y[2], Kadonsky, K.F. [1], Roman, F.A.R., Jr. [2], Tariqi, A.Q[2]… **Naughton, C.C.** (2022). The need of an environmental justice approach for wastewater based epidemiology for rural and disadvantaged communities: A review in California. *Current Opinion in Environmental Science & Health.* 27: 100348.

[28] Ahmed, W…**Naughton, C.C**…Roman, F.A.R.[2] Jr…Shanks, O.C. (2022). Minimizing errors in RT-PCR detection and quantification of SARS-CoV-2 RNA for wastewater surveillance. *Science of the Total Environment.* 20: 149877.

[29] McClary-Gutierrez…**Naughton, C.C**…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, 1545-1551.

[30] Hauptman, H.[1], **Naughton, C.C.** (2021). Unsafe at Low Levels: Adopt a Federal MCL for 1,2,3-Trichloropropane in United States' Drinking Water. *Journal of Science Policy and Governance.* 19(1):1-7.

[31] Tariqi, A.Q. [2], **Naughton, C.C.** (2021). Water, health, and environmental justice in California: Geospatial analysis of nitrate contamination and thyroid cancer. *Environmental Engineering Science.* 38(5): 377-388.

[32] Fernandez-Bou, A….Alvarado, A.G.F[1]….**Naughton, C.C**…Medellin-Azuara, J. (2021). 3 Challenges, 3 Errors, and 3 Solutions to Integrate Frontline Communities in Climate Change Policy and Research: Lessons from California. *Frontiers in Climate*. 3: 717554.

[33] Ahmed, W….**Naughton, C.C**…Bivins, A. (2021). Differentiating between the possibility and probability of SARS-CoV-2 transmission associated with wastewater: empirical evidence is needed to substantiate risk. *FEMS Microbes*. 2: xtab007.

[34] Hauptman, H. [1], **Naughton, C.C.** (2021). Legacy 1,2,3-trichloropropane contamination: a systematic review of treatments. *Journal of Water, Sanitation and Hygiene for Development.* 11(4): 515-534.

[35] Mattos, K.J., Mulhern, R., **Naughton, C.C.**, Anthonj, C., Brown, J. et al. (2021). Reaching those left behind: knowledge gaps, challenges, and approaches to achieving SDG 6 in high-income countries. *Journal of Water, Sanitation and Hygiene for Development.* 11(5): 849-858.

[36] D'Aoust, P.M., Towhid, S.T., Mercier, E., Hegazy, N., Tian, X., Bhatnagar, K., Zhang, Z., **Naughton, C.C.**, Mackenzie, A.E., Garber, T.E., Delatola, R. (2021). COVID-19 wastewater surveillance in rural communities: Comparison of lagoon and pumping station samples. *Science of the Total Environment*, 801(20): 149618.

[37] Coffman, M.M., Guest, J.S., Wolfe, M.K., **Naughton, C.C.**, Boehm, A.B., Delgado Vela, J., Carrera, J.S. (2021). Preventing Scientific and Ethical Misuse of Wastewater Surveillance Data. *Environmental Science and Technology.* 55 (17): 11473-11475.

[38] **Naughton, C.C.** Will the COVID-19 pandemic change waste generation and composition? The need for more real-time waste management data and systems thinking. (2020). *Resources, Conservation & Recycling*, 162: 105050

[39] **Naughton, C.C.**, Akers, P., Yoder, D., Baer, R. Mihelcic, J.R. Can Sanitation Technology Play a Role in User Perceptions of Resource Recovery? An Evaluation of Composting Latrine Use in Developing World Communities in Panama. (2018). *Environmental Science and Technology*, 52(20): 11803-11812.

[40] **Naughton, C.C.**, Deubel, T., Mihelcic, J.R. Household Food Security, Economic Empowerment and the Social Capital of Women's Shea Butter Production in Mali. (2017). *Food Security*, 9(4): 773-784.

[41] **Naughton, C.C.**, Zhang, Q., Mihelcic, J.R. (2017). Modeling Energy and Environmental Impacts of Traditional and Improved Shea Butter Production in West Africa for Food Security. *Science of the Total Environment,* 576: 284-291.

[42] Mihelcic, J.R., **Naughton, C.C.**, Verbyla, M.E., Zhang, Q., Oakley, S.M., Schweitzer, R.W., Wells, E.C., and Whiteford, L.M. (2017). The Grandest Challenge of All: The Role of Environmental Engineering to Achieve Sustainability in the World's Developing Regions. *Environmental Engineering Science,* 34(1): 16-41.

[43] **Naughton, C.C.**, Lovett, P.N., Mihelcic, J.R. (2015). Land Suitability Modeling of Shea (*Vitellaria paradoxa*) Distribution across Sub-Saharan Africa. *Applied Geography*, 58: 217-227.

[44] **Naughton, C.C.**, Sissoko H.T., Mihelcic, J.R. (2015). Assessing Factors that Lead to Usage of Appropriate Technology Handwashing Stations in Mali, West Africa. *Journal of Water, Sanitation and Hygiene for Development*, 5(2): 279-288.

SELECT PEER-REVIEWED CONFERENCE PROCEEDINGS

[1] Manser, N., **Naughton, C.**, Prouty, C., Orner, K., Verbyla, M., Mihelcic, J.R. Improving the Global Competency of Graduate Engineers through Peace Corps Partnership and Long-Term International Service. Making Value for Society. *Proceedings of the American Society for Engineering Education (ASEE) National Conference,* Washington Convention Center, Seattle, WA. June 2015.

[2] Prouty, C., Orner, K., **Naughton, C.**, Manser, N., Verbyla, M., Trotz, M.A., Mihelcic, J.R. Exploring the Expanding Impact of a Sustainable Development Engineering Course through a Critical Evolutionary Review. Making Value for Society.

Proceedings of the American Society for Engineering Education (ASEE) National Conference, Washington Convention Center, Seattle, WA. June 2015.

[3] Verbyla, M.E., **Naughton, C.C.**, Vernaza-Hernandez, V., Feldman, A., Trotz, M.A., Brandt, M.E., Wells, E.C., Mihelcic, J.R. Using Social Media to Create a Global Community of Sustainability-Engaged Students. *Proceedings of 3rd Annual American Society for Engineering Education (ASEE) International Forum*, Indianapolis, Indiana, June 14, 2014.

[4] **Naughton, C.C.**, Meeks, J., Mihelcic, J.R. Developing Global Partnerships to Achieve a Sustainable Water Supply: Peace Corps Master's International Program. *Proceedings of the Second Annual Civil Engineering Conference: International Conference on Sustainable Urban Water Supply in Developing Countries*, University of Ilorin, Ilorin, Nigeria, July 26-28, 2010.

PEER-REVIEWED BOOK CHAPTERS

[1] Naughton, C. and Rousselot, O. 2019. Activated Sludge. In: J.B. Rose and B. Jiménez-Cisneros, (eds) Global Water Pathogen Project. (J.R. Mihelcic and M.E. Verbyla (eds) Part 4 Management Of Risk from Excreta and Wastewater) http://www.waterpathogens.org/book/activated-sludge Michigan State University, E. Lansing, MI, UNESCO. https://doi.org/10.14321/waterpathogens.62

[2] Naughton, C. and Mihelcic, J.R. 2019. Introduction to the Importance of Sanitation. In: J.B. Rose and B. Jiménez-Cisneros, (eds) Global Water Pathogen Project. (J.B. Rose and B. Jiménez-Cisneros) (eds) Part 1 The Health Hazards of Excreta: Theory and Control) http://www.waterpathogens.org/book/introduction Michigan State University, E. Lansing, MI, UNESCO. https://doi.org/10.14321/waterpathogens.1

[3] Naughton, C., Orner, K., Stenstrom, T. and Mihelcic, J.R. 2019. Composting and Dry Desiccating Toilets (Latrines). In: J.B. Rose and B. Jiménez-Cisneros, (eds) Global Water Pathogen Project. (J.R. Mihelcic and M.E. Verbyla) (eds) Part 4 Management Of Risk from Excreta and Wastewater) http://www.waterpathogens.org/book/composting-and-dry-desiccating-toilets Michigan State University, E. Lansing, MI, UNESCO. https://doi.org/10.14321/waterpathogens.57

[4] Orner, K.D., Naughton, C. and Stenstrom, T.A. 2018. Pit Toilets (Latrines). In: J.B. Rose and B. Jiménez-Cisneros, (eds) Global Water Pathogen Project. (J.R. Mihelcic and M.E. Verbyla) (eds) Part 4 Management Of Risk from Excreta and Wastewater) http://www.waterpathogens.org/book/pit-toilets Michigan State University, E. Lansing, MI, UNESCO. https://doi.org/10.14321/waterpathogens.56

OTHER SCHOLARLY PROJECTS

COVIDPoops19 Global Dashboard of Wastewater Monitoring for SARS-CoV-2 (2020-2021) arcg.is/1aummW

Naughton, C., Katirji, Z., and Wright Wendel, H.E. *Solutions Manual for Environmental Engineering: Fundamentals, Sustainability, Design*; 2nd Edition James R. Mihelcic and Julie Beth Zimmerman, John Wiley & Sons, New York, 2013.

Reviewer of Mihelcic, J.R., Zimmerman, J.B. *Environmental Engineering: Fundamentals, Sustainability, Design*, 1st Edition, John Wiley & Sons, 2009.

Reviewer of Mihelcic, J.R., E.A. Myre, L.M. Fry, L.D. Phillips, B.D. Barkdoll. *Field Guide in Environmental Engineering for Development Workers: Water, Sanitation, Indoor Air,* American Society of Civil Engineers (ASCE) Press, Reston, VA, 2009.

INVITED KEY-NOTE PRESENTATIONS

[1] Naughton, C.C. COVIDPoops19 Analysis: equity and lessons learned. Oral Presentation. *IWA LET*. Reno, Nevada. March 31st, 2022.
[2] Naughton, C.C. COVIDPoops19 and Beyond: How the pandemic has changed the water sector. Oral Presentation. *IWA MEWE.* Virtual. October 20th, 2021.

INVITED PRESENTATIONS

[1] Naughton, C.C. Life Cycle Assessment as a Tool Towards Food Security and Nutrition in the United States and Africa. Panelist. *National Academies of Science, Engineering, and Medicine (NASEM) U.S.-Africa Frontiers Symposium.* In-Person. Dakar, Senegal. February 3rd, 2026.
[2] Naughton, C.C. Keep Showing Us the Data: Global Equity and Data Sharing of Wastewater Monitoring. Oral Presentation. *Lorentz Workshop.* In-Person. Leiden University. The Netherlands. October 10th, 2024.
[3] Naughton, C.C. Providing Technical and Logistical Support to Utilities. Panelist. *California Center of Excellence Wastewater Surveillance Workshop.* In-Person. Stanford University Redwood City. June 5th, 2024.
[4] Naughton, C.C. Drinking Water Quality: Nitrate and 1,2,3-Trichloropropane Contamination. Oral Presentation. *CNC Merced.* In-Person. Merced, CA. May 30th, 2024.
[5] Naughton, C.C. Sensors and Predictive Technologies for Environmental Monitoring and Population Health. Panelist. *CITRIS Edge in Tech.* In-Person. UC Davis. March 8th, 2024.
[6] Naughton, C.C. Food-Energy-Water Systems for the Underserved. Oral Presentation. *AAEES PechaKucha.* Virtual. February 28th, 2024.
[7] Naughton, C.C. Health Equity and Wastewater Surveillance. Oral Presentation. *CDC/WEF Wastewater Disease Surveillance Summit.* Virtual. October 1st, 2023.
[8] Naughton, C.C. et al. FEWS-US: Designing Food-Energy-Water Systems for and with the Underserved. *University of Nevada Reno Seminar.* In-Person. September 30th, 2023.
[9] Naughton, C.C. and Nuno, M. Equity and Sampling Optimization for Wastewater Surveillance in the Central Valley of California. Oral Presentation. *National Academies of Science Engineering and Medicine Community Wastewater-based Infectious Disease Surveillance Committee*. Virtual. September 18th, 2023.
[10] Naughton, C.C. et al. FEWS-US: Designing Food-Energy-Water Systems for and with the Underserved. *UC Davis Seminar.* In-Person. October 4th, 2022.
[11] Naughton, C.C. et al. COVIDPoops19 and Beyond: Origin, Evolution, and Equity. Oral Presentation. *WESTalks, IC-IMPACTS & UBC Future Waters*. Virtual. May 26th, 2022.
[12] Naughton, C.C. et al. COVIDPoops19: Making use of an "Unusual" Data Source. Oral Presentation. *APDU and CIC Symposium.* Merced, California. In-Person. May 3rd, 2022.
[13] Naughton, C.C. et al. COVIDPoops19 and Beyond: Origin, Evolution, and Impact. Oral Presentation. *Merced Rotary Meeting.* Merced, California. In-Person. March 11th, 2022.

[14] Naughton, C.C. et al. FEWS-US: Designing Food-Energy-Water Systems for and with the Underserved. *UC Berkeley Environmental Engineering Seminar.* In-Person. February 25th, 2022.
[15] Naughton, C.C. et al. COVIDPoops19 and Beyond: Origin, Evolution, and Impact. Oral Presentation. *University of Miami Environmental/Chemical Engineering Seminar.* Virtual. February 11th, 2022.
[16] Naughton, C.C. et al. COVIDPoops19 and Beyond: Origin, Evolution, and Impact. Oral Presentation. *AAEES Webinar Series.* Virtual. January 26th, 2022.
[17] Naughton, C.C., Leifels, M., Nguyen, J. Ask Me Anything about SARS-CoV-2 Wastewater Testing. Oral Presentation. *Bio-Rad.* Virtual. December 7th, 2021.
[18] Naughton, C.C. et al. Using Wastewater to Track COVID-19. Oral Presentation. *Modesto Junior College Science Colloquium.* Virtual. November 10th, 2021.
[19] Naughton, C.C., Roman, F.A.R, Jr., Tariqi, A.Q., James, B. Students Converging COVID-19 Environment, Health, and Equity. Oral Presentation. *AAEES Webinar Series.* Virtual. July 28th, 2021.
[20] Naughton, C.C., James, B., Trotz, M.A. Report from the Converging COVID-19 Series. Oral Presentation. *AEESP Virtual Appetizer*. July 14th, 2021.
[21] Bischel, H.N., Naughton, C.C., Zuniga-Montanez, R. Monitoring Wastewater at Multiple Scales to Inform COVID-19 Public Health Response. Oral Presentation. *CWEA National Conference.* Virtual. June 7th-10th, 2021.
[22] Naughton, C.C. et al. COVIDPoops19 Global COVID-19 Wastewater Monitoring Tracking and W-SPHERE Data Center. Oral Presentation. *Public Health Agency of Canada.* Virtual. June 4th, 2021.
[23] Naughton, C.C. et al. Show us the Data: Global COVID-19 Wastewater Monitoring Efforts, Equity, and Gaps. *UCLA Civil and Environmental Engineering Seminar.* Virtual. May 25th, 2021.
[24] Naughton, C.C. et al. Using what we learned from COVID-19 Wastewater Based Epidemiology for Future Pandemic Prevention. *NSF Human Predictive Intelligence for Pandemic Prevention (PIPP) Workshop.* Virtual. March 22nd-23rd, 2021.
[25] Naughton, C.C. et al. COVIDPoops19 and Beyond: Global COVID-19 Wastewater Monitoring Efforts and Data Sharing. *EU Sewer Sentinel Systems for SARS-CoV-2 (EU4S) 4th Town Hall Meeting.* Virtual. March 22nd, 2021.
[26] *Naughton, C.C., Kinyua, M., Zhang, Y., Deeming, M.A., Roman, F.A. Jr., Tariqi, A., Alvarado, A.G.F. Global Dashboard and Analysis of SARS-CoV-2 Wastewater Monitoring Efforts. Oral Presentation. *NSF COVID-19 Wastewater Based Epidemiology Research Coordination Network Young Investigator Series.* Virtual. January 6th, 2021.
[27] Naughton, C.C. et al. UC Merced Wastewater SARS-CoV-2 Update. Oral Presentation. *UC-Wide Strategy Meeting on Wastewater Early Detection.* Virtual. October 29th, 2020.
[28] Naughton, C.C. et al. The need for a global dashboard of Wastewater monitoring for SARS-CoV-2. Oral Presentation. *CWEA COVID-19 Wastewater Surveillance, Update 2.* Virtual. October 27th, 2020.
[29] Naughton, C.C. et al. What Happens when you flush the toilet? Oral Presentation. *AEESP Converging COVID-19 Series.* Virtual. October 2nd, 2020.

SELECT CONFERENCE PRESENTATIONS (*asterisk indicates presenter(s))

[1] *Deubel, T.F., Naughton, C.C. *The Argan Tree as a Nexus for Sustainability, Women's Cooperatives and Tourism in Morocco*. Oral Presentation. Society for Applied Anthropology Conference. Santa Fe, AZ. March 28th, 2024.

[2] *Deubel, T.F. , *Naughton, C.C., Bargach, J. *Investigating Argan Production in Morocco through Interdisciplinary Team Research*. Oral Presentation. Society for Applied Anthropology Conference. Virtual. March 28-April 1, 2023.

[3] Naughton, C.C., Kadonsky, K., *D'Souza, N., Medema, G. Rose, J.B. How do we foster informed decisions and actions from wastewater based epidemiology? Poster Presentation. *AEESP Research and Education Conference.* In person. June 29th, 2022.

[4] *Naughton, C.C. et al. Global COVID-19 Wastewater SARS Public Health Environmental REsponse (W-SPHERE). Oral Presentation. *UNC Water and Health Conference.* Virtual. October 4th-8th, 2021.

[5] *Lindsay, C., *Naughton, C.C., Mattos, K., et al. Examining WASH inequalities and vulnerabilities in high-income countries. Side Session. *UNC Water and Health Conference.* Virtual. October 4th-8th, 2021.

[6] *Naughton, C.C., *Kinyua, M., Zhang, Y., Deeming, M.A., Roman, F.A. Jr., Tariqi, A., Alvarado, A.G.F. Adapting IIPP: Risk Assessment of SARS-CoV-2 for Wastewater Workers and Strategies for Mitigation. Oral Presentation. *CWEA Northern Safety Day Online*. November 10th, 2020.

[7] *Naughton, C.C., Kinyua, M., Zhang, Y., Deeming, M.A., Roman, F.A. Jr., Tariqi, A., Alvarado, A.G.F. The Need for a Global Dashboard of Wastewater Monitoring for SARS-CoV-2. Oral Presentation. *CASA-CWEA COVID-19 Wastewater Surveillance, Update 2.* Webinar Online. October 27, 2020.

[8] *Naughton, C.C., *Mattos, K. (2020). Getting Left Behind: Ensuring High-Income Countries Achieve Water and Sanitation for All by 2030 (SDG 6). Side Session Co-Lead, *UNC Water and Health Virtual Conference.* Chapel, Hill, NC. October 26, 2020.

[9] *Naughton, C.C., Tariqi, A., Kang, H. (2019). Will the United States Meet SDG 6, Water and Sanitation for All? Oral Presentation. *UNC Water and Health Conference.* Chapel, Hill, NC. October 7-11, 2019.

[10] *Naughton, C.C., Mihelcic, J.R., Verbyla, M. Rose, J. (2019). The Global Water Pathogens Project: Forming a Global Network to Address Sanitation and Water-borne Disease. Oral Presentation. *UNC Water and Health Conference.* Chapel, Hill, NC. October 7-11, 2019.

[11] *Naughton, C.C., Tariqi, A. (2019). Water, Health, and Environmental Justice in California's Central Valley: Geospatial Analysis of Water Contamination and Health Disparities. Oral Presentation. *ACS.* San Diego, CA. August 25, 2019.

[12] *Naughton, C.C., Campbell, B., Hopkins, O., Molyneaux, J., Francis, P. (2018). Millennium Challenge Corporation's Approach to Water, Energy, Food, and Climate Nexus. Poster Presentation. *UNC Water, Food, Energy, and Climate Nexus Conference.* Chapel, Hill, NC. April 16-18, 2018.

[13] *Naughton, C.C., Rose, J., Mihelcic, J.R. (2016). The Global Water Pathogens Project Sanitation Technologies. Oral Presentation. *Africa Water Week 6.* Dar es Saalam, Tanzania. July 18-22, 2016.

[14] *Naughton, C.C., Deubel, T., Mihelcic, J.R. (2016). The Intersection of Engineering and Anthropology used to Promote Food Security in Sub-Saharan Africa through Shea Butter Process Analysis and Improvement. Oral Presentation. *Society for Applied Anthropology: Intersections*. Vancouver, CA. March 29-April 2, 2016.

[15] *Naughton, C.C. (2016). Why Shea Butter for Global Food Security and Environmental Sustainability? Oral Presentation*. Shea 2016: Enhancing Farm Value.* Accra, Ghana. March 21-23, 2016.

[16] *Naughton, C.C., Zhang, Q., & Mihelcic, J.R. (2015). Assessing the food-energy climate nexus of traditional and improved shea butter processes across sub-Saharan Africa. Oral Presentation. *Association of Environmental Engineering and Science Professors (AEESP) Research and Education Conference*. Yale University, New Haven, CT. June 16, 2015.

[17] *Naughton, C.C., Adams, E., Mihelcic, J.R. Shea Trees, Shea Butter, and Climate Change. Oral Presentation. *NYC Shea Trade and Industry Conference*. New York City, New York. May 11, 2015.

[18] *Naughton, C.C., Manser, N.D., Prouty, C., Orner, K., Verbyla, M.E., Trotz, M.A., Mihelcic, J.R. (2014). Improving the Global Competency of Engineers through the Peace Corps Master's International Program. Oral Presentation, *American Society for Engineering Education (ASEE) Southeast Section Conference.* Gainesville, Florida. April 13, 2015.

[19] *Naughton, C.C., Lovett, P.N., and Mihelcic, J.R. (2014). Overview of Shea Tree Populations across Africa: Mapping and Emissions. Oral Presentation*, Shea 2014: The Industry Unites.* Abidjan, Côte d'Ivoire (Ivory Coast), March 24-26, 2014.

[20] *Naughton, C. and Mihelcic, J.R. (2013). Assessing Appropriate Technology Handwashing Stations in Mali, West Africa. Poster Presentation, *Water & Health Conference: Where Science Meets Policy*. Chapel Hill, North Carolina, October 14-18, 2013.

SELECT STUDENT PRESENTATIONS (* indicates presenting author)

[1]Graduate Student Researcher (primary adviser), [2]Undergraduate student researcher (primary adviser)

[1] Amador, D.[1], Naughton, C.C., Beutel, M., Hoh, E. *Estimating Smoking Prevalence in California's San Joaquin Valley Using Wastewater Based Epidemiology*. Oral Presentation. NCPC Tobacco Endgame Scholarship Symposium (TESS). UC Merced. April 19, 2026.

[2] Li, J.[1], Naughton, C.C., McKuin, B., Bales, R., Reagan, J., Penney, B., Hartsough, P, Fortier, M-O.P. *Life Cycle Greenhouse Gas Emissions of Solar Panels over Canals compared to Ground-mount Solar in the Central Valley of California*. Poster Presentation. AEESP Research and Education Conference. Durham, North Carolina. May 21, 2025.

[3] Lukkoor, R.[1], Naughton, C.C., Torres, S.M., Heerema, R., Flores Galarza, R.A., Viers, J.H., Fernald, A.G. *Life Cycle Assessment of drip and flood irrigation of in-shell pecan production in the Mesilla Valley, New Mexico, United States*. Poster Presentation. AEESP Research and Education Conference. Durham, North Carolina. May 21, 2025.

[4] Amador, D.[1], Naughton, C.C., Chavez, J. [2], Nava, M. [2], Daza-Torres, M.L., Cricello Montesinos-Lopez, Boehm, A.B., Wolfe, M.K., Bischel, H.N. *Urban to Rural Shifts: Quantifying the Time Lag of SARS-CoV-2 between the Bay Area and Central Valley through Wastewater-Based Epidemiology*. Poster Presentation. AEESP Research and Education Conference. Durham, North Carolina. May 21, 2025.

[5] Rosales, A.[1], Naughton, C.C. *Seasonal Groundwater Contamination in California by 1,2,3- Trichloropropane*. Poster Presentation. AEESP Research and Education Conference. Durham, North Carolina. May 21, 2025.

[6] Lukkoor, R.[1], Naughton, C.C. *Life Cycle Assessment of Alfalfa in the Southwestern United States*. Oral Presentation. International Symposium on Sustainable Systems and Technology (ISSST) Conference. Baltimore, M.D. June 17-20, 2024.

[7] Espinoza, M., Naughton, C.C. *Social Life Cycle Assessment of Strawberry Production in California*. Poster Presentation. National Conference of Undergraduate Research. Long Beach, California. April 10th, 2024.

[8] Corona, L.[2], Li, J.[1], Naughton, C.C. *Environmental Life Cycle Assessment for Solar Canals in the San Joaquin Valley*. Poster Presentation. National Conference of Undergraduate Research. Long Beach, California. April 9th, 2024.

[9] Li, J. [1], Migadde, F. [2], Deubel, T.F., Naughton, C.C. *Social and Environmental Assessment of Orchard Farming and Mechanization of Argan Oil Production in Morocco*. Oral Presentation. Society for Applied Anthropology. Santa Fe, AZ. March 28th, 2024.

[10] Whiteman, Z., Migadde, F. [2] *Navigating Culture and Academia: Undergraduate Experiences with Field School Research in Morocco*. Oral Presentation. Society for Applied Anthropology. Santa Fe, AZ. March 28th, 2024.

[11] Migadde, F[2], Naughton, C.C., Li, J.[1] et al. *US-Morocco Collaborative Research for Socially and Environmentally Sustainable Women's Argan Oil Production.* Poster Presentation. National Society of Black Engineers (NSBE) Annual Convention. Atlanta, Georgia. March 20-24, 2024.

[12] Espinoza, M. [2], Naughton, C.C. *Social Life Cycle Assessment of Strawberry Production in Central Valley of California*. Poster Presentation. Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), National Diversity in STEM Conference. Portland, Oregon. October 27th, 2023.

[13] Li, J. [1], Migadde, F[2]….Naughton, C.C. *NSF IRES: US-Morocco Collaborative Research for Socially and Environmentally Sustainable Women's Argan Oil Production*. Poster Presentation. 26th Annual Colloquium on International Engineering Education. Alexandria, Virginia. November 2-3, 2023.

[14] Hauptman, B.H. [1], Harmon, T.C., Nasef, Z., Rosales, A.A. [2], Naughton, C.C. *Using point-of-use filters and almond biochar to reduce 1,2,3-TCP contamination in drinking water.* Poster Presentation. University of North Carolina Water and Health Conference. Chapel Hill, N.C. October 14-18, 2023.

[15] Hauptman, B.H. [1], Naughton C.C. *Groundwater Quality and Environmental Justice in Rural Communities.* Invited Panel discussion: Resolving Conflicts in the Environment. UC ANR Statewide Conference. Fresno, CA. April 26, 2023.

[16] Hauptman, H.B. [1], Naughton, C.C….Hernandez, A.[2] *Impacts of Urban Expansion into Argan Forests in Morocco*. Oral Presentation. Society for Applied Anthropology Conference. Virtual. March 28-April 1, 2023.

[17] Alvarado, A.G.F[1], Naughton, C.C., Madadi, K. [2], Sugimoto, P.[2], Foresti, S. The Life of a Tomato: Environmental Life Cycle Assessment of Fresh Tomatoes Compared to Processed Tomatoes in California. Poster Presentation. *AEESP Research and Education Conference.* St. Louis, Missouri, June 27th-29th, 2022.

[18] Kadonsky, K. [1], Naughton, C.C.…Medina, C[2]….Bischel, H. Convergence of Wastewater Disease Surveillance Research and Action for Health Equity in California. Poster Presentation. *AEESP Research and Education Conference.* St. Louis, Missouri, June 29th, 2022.

[19] Hauptman, H. [1], Naughton, C.C. Slipping through the cracks: A geospatial analysis of 1,2,3-TCP in the San Joaquin Valley. Oral Presentation. *California Department of Food and Agriculture, PUR Annal Meeting*. Virtual, December 16, 2021.

[20] Kadonsky, K. [1], Naughton, C.C….Bischel, H. Wastewater Disease Surveillance for Greater Health Equity in California. Oral Presentation. *Wastewater Disease Surveillance Summit, WEF, CDC NWSS, WEA.* Cincinnati, Ohio. March 21-24, 2022.

[21] Kadonsky, K. [1], Naughton, C.C. et al. Data equity: An analysis of global access to wastewater monitoring. Oral Presentation. *Global Science Exchange Series, EWRI ASCE.* Virtual. January 28, 2022.
[22] Hauptman, H. [1], Naughton, C.C. Using Random Forest to Predict Groundwater Contaminated with 1,2,3-TCP in California's Central Valley. Oral Presentation. *AGU*. Virtual, December 16, 2021.
[23] Alvarado, A.G.F. [1], Naughton, C.C. et al. Global COVID-19 Wastewater Monitoring Efforts: Development of the COVIDPoops19 Dashboard. Oral Presentation. *DHS/NIST Workshop: Standards to Support an Enduring Capability in Wastewater Surveillance for Public Health.* Virtual. June 14-18, 2022.
[24] Hauptman, H. [1], Naughton, C.C. (2020). A Toxic Inheritance: The legacy of 1,2,3-trichloropropane in Groundwater – A systematic Review of Treatment Methods. Poster Presentation, *UNC Water and Health Conference,* Chapel, Hill, NC. October 29th, 2020.
[25] Tariqi, A.[2], *Naughton, C.C. (2019). Geospatial Analysis of Nitrate Contamination and Health Disparities. Flash talk and Poster Presentation. *American Chemical Society.* San Diego, CA. August 25, 2019.

EXTERNAL FUNDING EXPERIENCE

California Department of Water Resources: Impacts of Adapting Water Supply and Wastewater Management Systems to Manage Water Use Efficiency and Conservation in California
Amount: $381,452 (UC Merced) 05/2025-01/2028 Status: Funded
*PI: **Naughton, C.C.**(UC Merced)*
Assessing the impacts of lower flow regulations on wastewater collection systems.

UC Merced Nicotine and Cannabis Policy Center: A Pilot for Estimating Smoking Prevalence in California's San Joaquin Valley using Wastewater-Based Epidemiology
Amount: $50,000 01/2025-01/2026 Status: Funded
*PI: **Naughton, C.C.**(UC Merced)., Co-PI: Beutel, M. (UC Merced), Hoh, E. (SDSU)*
Collected and analyzed samples for nicotine and two metabolites from three cities and the UC Merced campus over four months to estimate smoking prevalence.

NSF Engineering Research Center (ERC): Transformation of American Rubber through Domestic Innovation for Supply Security (TARDISS)
Amount: $1,888,429 (UC Merced) 09/2024-08/2029 Status: Funded
*PI: McCloskey, K. (UC Merced)., Co-PIs: **Naughton, C.C.**, Sexton, J., Garcia, J.*
Improve crop production and extraction of natural rubber crops including a Life Cycle Assessment and Techno Economic Market Analysis.

University of California Office of the President: Analysis and Demonstration of Circular Bioeconomy-based Production of Natural Fiber
Amount: $500,054 01/2024-06/2026 Status: Funded
*PI: Diaz, G.(UC Merced)., Co-PI: **Naughton, C.C.** (UC Merced), Ryals, B. (UC Merced)*
Field demonstration and analysis (including Life Cycle Assessment) of natural fiber insulation panels and biochar greywater filter.

University of California Office of the President: Electrochemical drinking water treatment for climate adaptation
Amount: $524,151 06/2023-06/2026 Status: Funded
PI: Palko, J.(UC Merced)., Co-PI: ***Naughton, C.C.*** *(UC Merced), Li, M.H. (UC Merced)*
Developing a new treatment for persistent groundwater contaminants in California. Leading community domestic drinking water well testing and education.

Philanthropic Funding: Healthy Central Valley Together
Amount: $325,000 (Direct UC Merced) 12/2021-06/2027 Status: Funded
PI: Bischel, H (UC Davis)., Co-PI: ***Naughton, C.C.*** *(UC Merced)*
Monitoring eight wastewater treatment plants in the Central Valley for SARS-CoV-2, variants, and other pathogens of concern for health equity.

Ceres Nanosciences and NIH RADx: Joint Center of Excellence for Wastewater Based Epidemiology
Amount: ~$100,000 November 2021 Status: Funded
PI: Bischel, H (UC Davis)., Co-PI: ***Naughton, C.C.*** *(UC Merced)*
One of 16 selected centers of excellence to receive equipment, supplies, and training to test over 1,000 wastewater samples for SARS-CoV-2 with magnetic nanobeads.

Bill and Melinda Gates Foundation: SARS-CoV-2 Environmental Surveillance Center
Amount: $260,000 (1.5 years) 01/2021-05/2022 Status: Funded
PI: Rose, J.B. (MSU), Co-PIs: Medema, G., ***Naughton, C.C.*** *(UC Merced), Katsivelis, P.*
To advance environmental surveillance of sewage informing local and global efforts for monitoring and supporting public health measures to combat disease.

USDA NIFA: Securing a Climate Resilient Water Future for Agriculture and Ecosystems through Innovation in Measurement, Management, and Markets
Amount: $10,000,000 (5 years) 09/2021-08/2026 Status: Funded
PI: Viers, J., Co-PIs: ***Naughton, C.C.*** *(UC Merced), Khan, S., Medellin-Azuara, Null, S., et al.*
Part of the measurement thrust to lead Life Cycle Assessments of different crops in the three different states represented in this grant (California, Utah, New Mexico).

UCOP: Campus Collaborative Center's Multi-Campus Testbed Pilot
Amount: $30,000 (1.5 years) 08/2021-12/2022 Status: Funded
PI: ***Naughton, C.C.*** *(UC Merced)*
Creating a UC Merced asset map of faculty conducting agriculture research and piloting research and community projects to provide food security to disadvantaged communities.

California MRPI: Labor and Automation in California Agriculture (LACA): Equity, Productivity, & Resilience
Amount: $3,100,000 (3 years) 01/2021-12/2024 Status: Funded
PI: Harmon, T., Co-PIs: ***Naughton, C.C.*** *(UC Merced), Hestir, E., Viers, J., Carpin, S., et al.*
Serving as environmental thrust leader for LACA and conducting environmental and social Life Cycle Assessment of cropping systems in California.

NSF International Research Experiences for Students Track 1 (#1952477): US-Morocco Collaborative Research for Socially and Environmentally Sustainable Argan Oil Production
Amount: $119,938 (3 years) 09/2020-09/2024 Status: Funded
*PI: Deubel, T. (USF), Co-PI: **Naughton, C.C.** (UC Merced)*
Summer research program for six students each summer (half anthropology and half environmental engineering/environmental systems) focused on socially and environmentally sustainable argan oil production.

NSF Conference Grant #2037834: Collaborative Conference Proposal: Converging COVID-19, environment, health, and equity.
Amount: $19,750 (1 years) 09/2020-08/2022 Status: Funded
*PI: Trotz, M.A. (USF), Co-PI: **Naughton, C.C.** (UC Merced)*
Virtual conference, six sessions for six weeks. 30 presenters on six themes related to the NASEM Grand Environmental Engineering Challenges. Conference website: https://aeespconvergingcovid19.org/

USDA Research and Extension Experiences for Undergraduates (REEU) #2020-69018-30661: San Joaquin Valley Food and Agriculture Cyberinformatics Tools and Science (FACTS) Bridge
Amount: $399,945 (4 years) 06/2020-05/2025 Status: Funded
***PI: Naughton, C.C.** (UC Merced), Co-PIs: Viers, J., Medellin-Azuara, Khan, S. (UC Merced)*
Six week summer research bridge program for 10 students (peer-to-peer matching between incoming undergraduates and community college transfer students) over four years. Submitted through UC Merced CITRIS as part of Ag+Food+Tech initiative.

COVID-19 CITRIS (Center for Information Technology Research in the Interest of Society) Seed Grant: Quantitative Microbial Risk Assessment and Geospatial Analysis of SARS-CoV-2 in Wastewater for Vulnerable Populations
Amount: $49,200 (8 months) 06/2020-02/2021 Status: Funded
*PI: **Naughton, C.C.** (UC Merced), Co-PIs: Kinyua, M. (UC Davis)*
Integrating risk assessment and geospatial analysis to assess risk to wastewater treatment workers and of neighboring communities to wastewater treatment plants for COVID-19 and beyond. Also, created a global dashboard for and twitter account of wastewater monitoring for SARS-CoV-2.

UC Merced National Lab Fees: Adapting the food supply chain to the COVID-19 induced shock and beyond for a resilient future
Amount: $10,000 (4 months) 06/2020-10/2020 Status: Funded
*PI: **Naughton, C.C.** (UC Merced)*

National Science Foundation Research Traineeship # 1735320: Collaborative Research: NRT-INFEWS: Systems Training for Research ON Geography-based Coastal Food Energy Water Systems (STRONG-CFEWS)
Amount: $2,505,884 (5 year) 09/17-08/2022 Status: Funded
PI: M. Trotz (USF Civil & Env. Eng.), Co-PIs: S. Habtes (Univ. of Virgin Islands, Bio. Oceanography), J. Mihelcic and Q. Zhang (USF Civil & Env. Eng.), B. Zarger (USF Anthropology)

Role: Senior personnel. Contributed to grant development, writing, revisions, formatting, and compilation of supplemental documents. Aided in FastLane submission.

American Association of University Women $20,000 Fellowship **2014 – 2015**

African Sky **Jan. 2014 – Aug. 2020**
Facilitates in fundraising, allocation, and reporting of annual $30,000 budget.

Environmental Protection Agency Centers for Water Research on National Priorities Related to a Systems View of Nutrient Management: Center for Reinventing Aging Infrastructure for Nutrient Management (RAINmgt)
Amount: $2,499,074 (5 year) Funded: 08/01/13-07/31/17
PI: J. Mihelcic (USF Civil & Env. Eng.), Co-PIs: M. Trotz (USF Civil & Env. Eng.), E.C. Wells (USF Anthropology & Patel School of Global Sust.), C. McKayle (Univ. of Virgin Islands, Mathematics)
Contributed to grant compilation and editing. Facilitated grant management including: organizing External Science Advisory Boards, designed and implemented community engagement webinar and training, and drafted annual reports.

National Science Foundation Partnerships in International Research and Education (NSF PIRE): Context Sensitive Implementation of Synergistic Water-Energy Systems
Amount: $3,900,644 (5 year) Funded: 01/01/13-12/31/17
PI: J. Mihelcic (USF Civil and Env. Eng.), Co-PIs: J. Cunningham, S. Ergas, M. Trotz, D. Yeh, Q. Zhang (USF Civil and Env. Eng.), S. Olmstead (UofT), Y. Kuwayama, J. Shih (Resources for the Future), J. Zimmerman (Yale), T. Boyer (UF), A. Davis (UMD), E. Coney (CDC)
Assisted in grant management including: organization of research meetings, website design and update, social media, and annual reports compilation.

USAID and Peace Corps **2009 – 2012**
Developed grant proposals and was awarded over $8,000 from Peace Corps and USAID funding throughout service for WASH, food security, and gender projects.

TEACHING EXPERIENCE

CEE 020 Introduction to Civil and Environmental Engineering. University of California, Merced. Spring 2023, Spring 2024, Spring 2025, Spring 2026 (Instructor)

CEE 100 Civil Engineering for Sustainable Systems. University of California, Merced. Fall 2025 (Instructor)

ES 292 03 Sustainable Development Engineering. University of California, Merced. Spring 2021, Spring 2022, Fall 2024 (Instructor)

ENVE 020 Introduction to Environmental Science and Technology. University of California, Merced. Spring 2019, Spring 2020, Spring 2021, Spring 2022 (Instructor)

ES 290/ESS 190 Environmental Systems Seminar, UC Merced, Fall 2019, Spring 2020 (Co-Instructor)

ENV 6501, Sustainable Development Engineering, University of South Florida, Tampa, FL. Spring 2013, Falls 2013-2016. (Graduate Instructor)
Engaged in curriculum and assignment development, instruction and grading. Co-designed and coordinated construction labs on campus and a Burmese refugee farm. Specific lessons developed and taught include: (1) life cycle thinking, (2) construction materials, and (3) behavior change and water, sanitation, and hygiene (WASH).

CGN 6933, Context Sensitive Wastewater Resource Recovery Systems, University of South Florida, Tampa, Florida, Spring 2014. (Graduate Instructor)
Co-developed, instructed, and evaluated this interdisciplinary and multimedia graduate course. Organized weekly twitter chats and video production.

Peace Corps Master's International Program, University of South Florida, Tampa, Florida, Spring 2013-Spring 2017.
Assisted in program management including bi-monthly workshops and marketing. Mentored students on campus prior to service and two students in completion of their master's thesis.

Peace Corps Volunteer Trainer. Pre-Service Training 2009.
Co-instructed, organized, and developed objectives for water and sanitation technical sessions in hygiene, water treatment and storage, pump installation and repair, well construction and improvement, grey water management, latrine design and construction, and drip irrigation and sessions on cross-culture, medical, safety and security for 81 trainees.

GRADUATE STUDENT ADVISING AND AWARDS

[1] Krystin Kadonsky, M.S.: June 2021- May 2023, COVID-19 Wastewater Monitoring
Enrolled in PhD program at Virginia Tech
[2] Ana Grace Alvarado, M.S.: June 2020- Dec. 2022, Life Cycle Assessment of Crops
AEESP 2022 Conference Best Poster Award
[3] Hope Hauptman, PhD.: Aug. 2019- May 2024, Geospatial & Treatment Analysis of 1,2,3-TCP
NSF IRES Ghana Graduate Researcher, 2021
Merced Rotary Scholarship ($15,000), 2022
NSF IRES Morocco Graduate Researcher, 2022
Achievement Rewards for College Scientists (ARCS)
Foundation Scholarship Award ($28,333), 2022 -2024
American Association for University Women (AAUW) Dissertation Award
($25,000), 2023-2024
Project Scientist at UCANR 2025-Present
[4] Joliette Li (PhD): August 2022- Present, Life Cycle Assessment of Dual-Use PV Tech
NSF IRES Morocco Graduate Researcher, 2023
[5] Raji Lukkoor (PhD): June 2023-Present, Life Cycle Assessment of Crops
[6] De'Liz Amador, M.S.: Fall 2024-May 2026, Wastewater Monitoring
Accepted to PhD program at University of Arizona starting Fall 2026
[7] Angela Rosales, M.S.: Fall 2024- May 2026, Seasonal Analysis of 1,2,3-TCP

GRADUATE STUDENT COMMITTEES

ES= Environmental Systems, PH= Public Health, PhD student unless noted
[1] Alyssa Pfadt-Trilling (ES): Jan. 2022- Present

[2] Kasem Salim (PH): May 2021- May 2025
[3] Jose Manuel Rodriguez Flores (ES): April 2021- August 2023, Chair
[4] Elena Bishak (ES): March 2021- December 2023, Chair
[5] Vicky Espinoza (ES): Spring 2019
[6] Sara Torres (New Mexico State University): January 2020-March 2022
[7] Zachary Malone (ES): September 2022- May 2026
[8] Jessica Mosher (Public Health, Loma Linda University): Jan. 2023-December 2023
[9] Mamata Pokhrel (PH, Masters): January 2023-May 2023
[10] Amir Sharafi (ES): September 2023- August 2024
[11] Kenneth Prewitt (MCS): September 2023- December 2025
[12] Danielle Jones (ES): Fall 2025, Chair
[13] Isabelle Haddad (ES): Spring 2025-Present, Chair
[14] Diane Martinez-Gomez (ES, Masters): August 2025-May 2026, Chair

UNDERGRADUATE STUDENTS MENTORED

ENVE= Env. Engineering, CE= Civil Engineering, ES= Environmental System Science, CS= Computer Science

[1] Adrian Badillo (CE): June 2026- August 2026, NSF ERC TARDISS REU
[2] Erwin Rodriguez (CE): Spring 2026, NSF TARDISS
Research Credits (3 units)
[3] Danna Jimenez (CE): August 2025- Present, Wastewater Pathogen Detection
Healthy Central Valley Together Intern
[4] Marco Nava (CE): September 2023- July 2024, Wastewater Pathogen Detection
Healthy Central Valley Together Intern
Hired at Kiewit Consulting Firm
[5] De'Liz Amador (ENVE): September 2023- July 2024, Wastewater Pathogen Detection
Healthy Central Valley Together Intern September 2023-July 2024
Award: Outstanding ENVE Undergrad May 2024
Continued for Master's at UC Merced 2024-2026
[6] Jonathan Chavez (CE): July 2023- August 2025, Wastewater Pathogen Detection
Healthy Central Valley Together Intern
Accepted into UC Merced PhD program (different adviser) January 2026
[7] Lilliana Corona (CE): July 2023- December 2023, LCA of Solar Canals
USDA FACTS Summer Bridge Fellow 2023, 1st place poster
UC LAEP Undergraduate Researcher Fall 2023-Spring 2024
[8] Diane Martinez-Gomez (ENVE): June 2023- May 2024, LCA of Alfalfa and Argan
USDA FARMERS (PI Ortiz) Fellow Summer 2023-Spring 2024
NSF IRES Morocco Undergraduate Researcher Summer 2024
Continued for Masters at UC Merced in Environmental Systems (different advisor)
[9] Faroz Miggade (ENVE): January 2023- August 2025, Argan LCA
NSF IRES Morocco Undergraduate Researcher Summer 2023
CITRIS Workforce Innovation Program Summer 2025 Intern
[10] Steve Lee (ENVE): September 2022- July 2023, Wastewater and Argan
UCMercedPoops19 Intern September 2022-May 2023
NSF IRES Morocco Undergraduate Researcher Summer 2023
[11] Angela Rosales (ENVE): September 2022- December 2023, 1,2,3-TCP Treatment
USDA FARMERS (PI Ortiz) Fellow Fall 2022-Spring 2023
UC Merced Climate Action Grant Summer 2023-December 2023

Continued at UC Merced for Masters in Environmental Systems

[12] Mabel Espinoza (CE): July 2022- Present, S-LCA of Strawberry Production
USDA FACTS Summer Bridge Fellow 2022, 2nd place poster
UROC UCLEADS Scholar 2023
LACA Undergraduate Researcher Fall 2022-Present
Award: Engineering Disciplinary Research Presentation Award, SACNAS 2023
Award: UC LEADS Engineering and Computer Science Award 2024
Award: UC Berkeley Visiting Fellow Recognition Award 2024

[13] Guadalupe Singh (ESS): June 2022- Dec. 2023, COVID-19 Wastewater Monitoring
CITRIS Workforce Innovation Program Summer 2022 Intern
Healthy Central Valley Together Undergraduate Researcher Fall 2022

[14] Kyle Ko (Neuroscience): June 2022-August 2022, COVID-19 Wastewater Monitoring
CITRIS Workforce Innovation Program Summer 2022 Intern

[15] Daniel Tucker (CS) June 2022-Aug 2022, COVID-19 Wastewater Monitoring
CITRIS Workforce Innovation Program Summer 2022 Intern

[16] Luna Lynn (CS): June 2022-August 2022, COVID-19 Wastewater Monitoring
CITRIS Workforce Innovation Program Summer 2022 Intern

[17] Paul Sugimoto (ENVE): November 2021-May 2022, Tomato LCA
Office of Sustainability Student Success Intern

[18] Keerthana Madadi (CS): January 2020-May 2021, Tomato LCA
Office of Sustainability Student Success Intern
Graduated May 2021, Job at Capital One

[19] Andy Hernandez (ENVE): Aug. 2021- July 2022, COVID-19 WW and Argan Oil GIS
USDA FARMERS (PI Ortiz) Fellowship
NSF IRES Morocco Undergraduate Researcher Summer 2022

[20] Clara Medina (ENVE): May 2021-May 2023, COVID-19 Wastewater Monitoring
UROC UC LEADS
Graduate May 2023, accepted to Stanford University for Graduate School
Award: Outstanding ENVE Undergrad May 2023

[21] Brooklyn James (ENVE): February 2020-May 2022, Converging COVID-19
AEESP Converging COVID-19 Conference Grant
Louisville University Researcher Spring 2022
Graduate December 2021, Summer 2022 hired by the EPA

[22] Vishaal Kumar (ENVE): February 2020-Dec 2020, 1,2,3-TCP water contamination

[23] Alexis Smith (ENVE): Sept 2019-Dec 2020, Waste management
Award: Outstanding ENVE Undergrad May 2022

[24] Destini Nguyen (Biology): Sept 2019-May 2020, Mosquito traps
Graduated May 2022, accepted to medical school

[25] Fernando Roman (ENVE): June 2020-May 2021, COVID-19 Wastewater
Graduated May 2021, Obtained PhD from Virginia Tech 2026

[26] Matthew Deeming (ENVE): June 2020-May 2021, COVID-19 Wastewater
Graduated December 2021, Provost and Prichard Consulting

[27] Julianna Porraz (ENVE): January 2020-May 2021, Air pollution
UROC NSF CAMP
Graduated May 2021, Obtained Master's Degree from UC Davis

[28] Arianna Tariqi (ENVE): January 2020-May 2021, Nitrates, water, & thyroid cancer
Award: Outstanding ENVE Undergrad May 2021
Graduated May 2021, graduate student University of Arizona

PROFESSIONAL LEADERSHIP AND SERVICE

COVID-19 Wastewater Committee Member. Nominated. California State Water Resources Control Board Water Monitoring Council. March 2021- January 2022.

CDC National Wastewater Surveillance System Utility Community of Practice Member. Nominated. June 2021- December 2023.

AEESP Government Affairs Committee. Member (2019-Present), Elected Co-chair (June 2022-2023).

AAEES Environmental Engineering Body of Knowledge Committee. 2020- 2023.

Current Professional Organization Memberships: Association of Environmental Engineering and Science Professors (AEESP), American Association for the Advancement of Science (AAAS), American Academy of Environmental Engineers and Scientists (AAEES), California Water Environment Association (CWEA), Water Environment Federation (WEF).

Associate Director, African Sky **Jan. 2014 – Aug. 2020**
Developed strategic plan, program goals and objectives for non-profit organization serving communities in Mali. Manages four program directors in health (water, sanitation, and hygiene), food security, education, and community arts.

President, American Association of University Women (AAUW) **Aug. 2014-2016**
President, founding member, and previous event coordinator of USF chapter of this national organization. Organized professional development workshops and seminars, Great American Teach-In at a middle school, and Equal Pay Day campus activity.

Education Director, African Sky **June 2012 – Jan. 2014**
Designed, managed, and monitored adult women's literacy program and center and primary school construction projects with compressed earth block technology in Mali.

Design Team Member, Engineers without Borders (EWB) - USF **2008-2009**
Participated in ferrocement rainwater catchment system design, water and sanitation committee management and gender inclusion for their project in the Dominican Republic.

Habitat for Humanity Detroit and Pontiac, MI **May – Aug. 2008**
Led work crews and participated in construction processes, implementing practical civil engineering concepts for building homes.

Community Development Agent, BRIDGE **June – Aug. 2007**
Collaborated with village leadership to lead village of 2,000 inhabitants in capacity building in Ghana to improve livelihoods, sanitation, health, and education.

UNIVERSITY SERVICE

Research Administrator Search Committee (3 positions). Spring 2026

Structural Engineering Assistant Professor Search Committee. Sept. 2024-May 2025

Research Administrator Search Committee- Faculty Representative. Spring 2026

Civil and Environmental Engineering Capstone Mentor. Spring 2025, Spring 2026.

Society of Women Engineers (SWE) UC Merced Adviser. Sept. 2023- Present.

Faculty Advisory Committee on Sustainability (FACS). April 2020- April 2023.

Community and Labor Center Executive Committee Member. Oct. 2020- Aug 2021.

Environmental Systems Admissions Committee. November 2019- May 2022.

Sustainable Infrastructure Assistant Professor Search Committee. Sept. 2019-May 2020.

Civil Engineering Curriculum Committee. March 2019-March 2020.

REVIEWER AND REFEREE ACTIVITIES

NSF CBET Proposal Panel. Spring 2018.

Peer-reviewed Journal Article Reviewer: ACS Environmental Au, ACS ES&T Water, ACS Water, American Journal of Public Health, Applied Geography, Applied and Environmental Microbiology, California Agriculture, Environment & Health, Environmental Engineering Science, Environmental Health Perspectives, Environmental Research Letters, Environmental Science and Technology, Environmental Science and Technology Letters (Outstanding Reviewer-2022), Environmental Science Water Research and Technology, MethodsX, PNAS, Nature Water, Sustainability, Journal of WASH for Development, Waste Management, Water Research.

PROFESSIONAL TRAININGS

Mentor Training. UC Merced Graduate Division and Academic Personnel Office. April 8th-9th, 2022.

Anti-Racist Course Redesign and Discussion Series. UC Merced. August 2020-May 2021.

NSF CAREER Workshop. Accepted. Virtual. April 21-23, 2021.

Faculty Mentoring and Networking Program. UC Merced. March 2020-May 2021

Indigenous Co-Innovation at the Nexus of Food, Energy, and Water Systems (Co-InFEWS). Virtual. June 15-19, 2020.

Online Environmental Engagement Conference. Cal EPA. June 2-4, 2020.

UC/CSU Moving Beyond Bias Training. Sacramento, CA. February 24, 2020.

Broader Impacts Workshop. UC Merced. NSF National Alliance for Broader Impacts. UC Merced. April 2019.

Queer Ally Training. UC Merced. February 19, 2020.

UnDocually. UC Merced. March 18-19, 2019.

FEATURED REPORTS AND NEWS ARTICLES

Reports: CDC Monthly Morbidity and Mortality Report, World Bank, World Health Organization Interim Guidance, NASEM Wastewater Based Disease Surveillance report
Scientific News: Scientific American, National Geographic, Nature News, Science, Science News
International News: La Liberte, CBC
National News: The Atlantic, Bloomberg, Business Insider, CNN, FiveThirtyEight, Forbes, The Gothamist, New York Times, Washington Post
State and Local News: ABC 30, Cap Radio, Fresno Bee, LA Times, Modesto Bee, Merced Sun Star, SacBee, Turlock Journal
UC System: The 10 best research stories of 2021

COMPUTER SKILLS

Adobe Premiere Pro, ArcGIS, QGIS, AutoCAD, SimaPro, SPSS, Microsoft Office.

LANGUAGES

English **Native Speaker** **USA**

French **Professional Proficiency** **USA, Mali, France**
Three years of French language experience in Mali, West Africa and five years of formal coursework (undergrad and graduate levels). Passed French Intermediate (B1) examination at Alliance Française in Nice, France in June 2012.

Bambara **Fluent** **Mali, West Africa**
Passed ACTFL exam at the Advanced/high level on April 5, 2012. 174 hours of language training and four years of research and work experience in Mali.