

Sandhya ‘Sandy’ Rao Poleneni

PROFESSIONAL APPOINTMENTS

Summary: Dr. Poleneni has over 12 years of experience working on projects pertaining to and teaching water and wastewater treatment & design, water quality & quantity modeling, urban planning and sustainable development, holistic water resources planning, science based policy making and rapid growth triggered capacity planning; these experiences include an understanding of unit process design, hydraulic and hydrology models, surface and ground water modeling, sampling, analysis, and modeling of water and wastewater quality, asset and capacity management, enforceable code development, biological treatment of industrial effluent, and observations of various treatment facilities from conventional surface water treatment to membrane technologies used for both water and wastewater treatment

At Missouri Water Resources Research Center from 2011-2017 Dr. Poleneni supervised 3 teams of employees that developed a better understanding of disinfection by-product chemistry in small community drinking water treatment facilities. During this time, she and her team has worked with over 25 rural communities throughout the State of Missouri, talked at length with utility operators, city administrators and the lead regulatory contact at the Missouri Department of Natural Resources to arrive at amicable plan to obtain long-term compliance. As a result of her efforts, she was invited to present at several section meetings of the Missouri Water and Wastewater Conferences, at international conferences in Australia & Canada and she also mentored researchers to present at regional meetings, and at the Annual Conference & Exposition (ACE) & Water Quality Technology Conference (WQTC) sponsored by the American Water Works Association. Under her supervision and guidance, most of her subordinates have moved on to become leads and primary researchers themselves successfully acquiring & executing multi-million dollar federal & state grants. Dr. Poleneni has returned to the center in 2021 as a Visiting Scholar advising the rural water quality research program.

More recently at San Antonio River Authority, Dr. Poleneni has taken on the responsibility of building, updating, re-parameterizing and calibrating master hydrology models for FEMA submission as well as reviewing hydraulic models for multiple watersheds. Dr. Poleneni has also taken on an initiator and facilitator role for the Bexar Regional Watershed Management- Watershed Technical Committee (BRWM-WTC) sub-committee for City of San Antonio Unified Development Code 2020 & 2025 changes with COSA, SARA and Bexar County as managing partners. Dr. Poleneni is also the agency champion (lead) for “influence changes to the COSA UDC to promote sustainable development” a SARA 5-year strategic action plan involving multiple departments. From 2017-2019, Dr. Poleneni was the project and asset manager for sewershed models development project for all 6 SARA owned wastewater utilities and then also as the capacity planning & GIS data management engineer for all SARA utilities assets on the ground.

From 2019-current Dr. Poleneni teaches both graduate and undergraduate classes at Texas A&M University-San Antonio including Pollutants in environmental systems, Introduction to wastewater treatment, Introduction to water treatment, Natural and constructed green systems for wastewater management, Wastewater treatment for direct and indirect uses and guest lecture Water laws, rules, and policy. Many of the above-mentioned courses for mandatory courses for students to graduate with bachelors and master’s in water resources science and technology program at Texas A&M University- San Antonio. She also serves as a core curriculum committee advisor for the undergraduate & graduate program as well as the research advisor at the Institute of Water Resources Science & Technology.

To give back to the research community and keep up with current trends, Dr. Poleneni has agreed to be a reviewer for more than a dozen international research journals and National Science Foundation and has reviewed over 100 research journal articles to date. Dr. Poleneni also serves as an editorial board member of American Journal of Water Science and Engineering.

San Antonio River Authority, San Antonio, Texas (May 2017 to present)

Senior Engineer, Watershed Engineering

Job description: 30% project management, 30% modeling and 40% planning & analysis

Texas A & M University- San Antonio, Texas (August 2019 to present)

Adjunct Faculty, Curriculum Committee Advisor, Research Advisor, Water Resources Science & Technology

Job Description: 70 % teaching, 30% advisor.

Fate & transport of pollutants in environmental systems

Drinking water treatment process & design

Wastewater treatment process & design

Wastewater treatment for direct and indirect uses

Natural and Constructed Green Systems for Wastewater Management

Missouri Water Resources Research Center, Missouri

Research Associate, (July 2011 to July 2017)

Job description: management of water quality lab; 50% supervision & mentoring, 30% research, 20% planning.

American Journal of Water Science and Engineering (Feb 2020 to present)

Editorial Board Member

National Science Foundation (November 2019 to Dec 2021)

Reviewer

University of Missouri-Columbia, Columbia, Missouri (August 2013 to July 2017)

Engineering Mentor, Mizzou Women Mentoring Women Program

City of Columbia Water & Light Department–Columbia, Missouri (February 2012 to December 2012)

Operations Intern, Columbia Water Treatment Plant

Job description: Design-Build of pilot scale model of distribution system, data collection and analysis. 70% research, 30% operations control.

Jeedimetla Industrial Effluent Treatment Plant, Central Government of India – Hyderabad, India (August 2009 to May 2010)

Engineering Intern, Department of Environment

Job description: Analysis & Interpretation of regulatory policy terms/provisions; Preparation of Environmental Assessment and Impact Statements, documentation for discharge permit application.

EXPERIENCE/EXPERTISE

Summary: knowledge & expertise developed over 12 years of working with multiple public & private entities on a wide variety of water resources engineering projects & grants coupled with advanced academic training & continued involvement with the academic & research community.

1. **Public Works (water, wastewater & storm water)** : modeling (ground & surface water quality, unit process, collection/distribution & plant hydraulics), system-wide masterplanning, design-build, physical & digital asset management, project management, permitting & compliance, water quality & quantity management, reservoir/storage management, sensor placement & monitoring, SOP & O&M manual development, capacity analysis & planning, I&I analysis & management, upgrades & permit negotiations, basis of design & technical memo development, training. Software skills: HSPF/Basins/WASP, ICM Infoworks, BioWin, Hydromantis GPSX, XPSWMM, EPANet, H2Onet, SCADA, WaterCAD, ArcGIS, AutoCAD, MatLAB.
2. **Hydraulics & Hydrology** : model development, model reviews, technical memo development, master dataset creation, watershed master planning, meteorological model development & needs, standards development, predictive flood model event analysis, response and community training. Software skills : HEC-RAS, HEC-HMS, VFlo, PFM & NEXRAD
3. **Green Infrastructure & BMPs** : site assessment, design & construction, feasibility analysis, placement & monitoring, multi-benefit analysis, data analysis, urban landscape planning, constructed green systems design, LID design, LID training (site, design & inspection). Software skills : Triple Bottom Line analysis, Cost-Benefit analysis, SVI index
4. **Public Policy & Code** : public/local government regulatory processes, stakeholder & expectations management, stakeholder & code conflict identification, negotiations & resolution, code development, outreach & awareness programs, longterm strategic planning, elected officials briefing.
5. **Federal Procedures** : NEPA process & paperwork (CatEX, EA, EIS, FONSI), Section 408 permitting, applicability & local sponsorship requirements, NPDES/TPDES permitting & compliance, MS4 permitting & consent decree compliance, CWA 303d list entries process & dredge & fill permitting, CA Bill #32 cap & trade program enforcement framework & compliance, Chesapeake Bay water quality trading program implementation.
6. **Project & Grant Management** : idea management, scope, schedule & budget development & management, contracting & negotiations, recovery mechanisms, critical path management, applications/proposals to different sources, task assignment & tracking, compliance & reporting paperwork.
7. **Personnel Management** : hiring & termination of FTEs, LTEs & interns, performance evaluations & management plans, projection of budget & needs, resource allocation, personnel training & development, mentoring, conflict of interest resolutions, diversity management.

PROJECTS AND EFFORTS (Active)

Summary: Project manager for Watershed Master planning, H&H modeler, SARA & Partners funded efforts.

1. **“Lower San Antonio Hydrology Models Update,”** (5/15/2022-12/31/2023), Hydrology Modeling Lead, mapping update is to account for increased rainfall depths from NOAA Atlas 14, recently acquired LiDAR topography, updated land use data and the impacts of karst terrain. Develop Blanco/Millers combined hydrology model.
2. **“West Side Creeks Water Quality Protection Area Creation,”** (08/1/2021-12/30/2023), develop the code for the newly proposed water quality protection area as part of the 2020/2022 COS UDC amendment, coordinate & negotiate with the stakeholders including COSA, RECSA, Council & neighborhood committees, appear in front of public commissions & follow-through with overlay creation
3. **“Watershed Masterplan Updates,”** (5/15/2020-6/30/2023), Project Manager, update watershed level masterplans for drainage/flooding, water quality and stream restoration of Leon, Salado, Upper San Antonio, Medina and Lower San Antonio watersheds.
4. **“Floodplain Remapping-Leon, Salado and Medina Watersheds,”** (8/1/2018-12/31/2024), review hydrology and hydraulics models submitted consultants and pre-process calibration precipitation data from multiple sources.
5. **“2020 City of San Antonio Unified Development Code Updates,”** (07/1/2018-05/30/2025), coordinate SARA’s, Bexar County’s and COSA’s efforts, needs and requirements related to 2020 UDC updates. Organize and host Bexar Regional Watershed Management- Watershed Technical Committee (BRWM-WTC) sub-committee on 2020 UDC changes every month.

PROJECTS AND EFFORTS (Completed)

Summary: Project manager, H&H modeler and Task lead on variety of multi-department projects.

1. **“Water Conservation & Draught Contingency Plan Update,”** (3/21/2022-6/30/2022), Technical Lead, update the River Authority’s Water Conservation & Draught Contingency Plan and submit it to Texas Water Development Board in addition to the annual reports.
2. **“Green & Ampt (G&A) parameters for SARB Basin,”** (1/1/2022-8/30/2022), Technical Lead, test multiple G&A combinations for HEC-HMS model calibration purposes and creation of master GIS shapefile with G&A parameters for all of SARB Basin for internal and external uses.
3. **“Westside Concepts for Precinct #3,”** (1/1/2022-3/30/2022), by managing the consultant, creation of three unique concepts of urban green infrastructure with amenities for precinct #3 at the request of the Commissioner. Managed the consultant. Internally designed the deliverable, developed the narrative, and alter the designs to meet the commissioner’s expectations
4. **“COSA 2022-2027 Bond Project Multi-benefit Analysis,”** (09/1/2021-12/30/2022), Watershed Lead, in-depth analysis of all proposed COSA 2022-2027 bond projects for opportunities for multi-benefits and connectivity and reviewer of the SOQs.
5. **“LaCoste Hydrology Model Parameterization,”** (06/15/2021-12/30/2021), Technical Lead, parameterization of the LaCoste HEC-HMS model for FEMA submission.

6. **“Cibolo Creek Hydrology Model Calibration,”** (02/01/2020-12/31/2021), re-parameterization and calibration of the Cibolo Creek master HEC-HMS model for FEMA submission.
7. **“Impervious Cover Analysis of Leon, Salado, USAR and Medina Watersheds,”** (01/01/2020-4/30/2020), Technical Lead, impervious per land-use type per sub-basin analysis of four watersheds to support HSPF water quality modeling.
8. **“Developer coordination,”** (1/1/2020-12/31/2020), streamline and coordinate development of multi-department review and permitting processes
9. **“Watershed scale future land-use analysis,”** (01/01/2020-05/30/2020), Technical Lead, GIS based future land-use data analysis for Leon, USAR, Salado and Medina watersheds.
10. **“Operations and Maintenance Manuals,”** (05/1/2019-12/31/2019), Project Manager, put together operations and maintenance manuals for Martinez II wastewater system to meet TCEQ regulations and help with utilities optimization plan.
11. **“Collection System Capacity Checks,”** (03/15/2019-12/31/2019), Technical Lead, building conservative models to run capacity checks on collection lines every time a new connection request is submitted to SARA utilities.
12. **“Air Quality Monitoring for Odor Control,”** (1/1/2019-12/31/2019), a comprehensive study to evaluate sources of odor issues at Martinez II wastewater treatment plant using dispersion models. I analyzed the sensors and complaints data for any underlying correlations.
13. **“Utilities GIS Data Modernization,”** (07/1/2018- 10/30/2019), Project Manager, SARA has contributed a significant amount of time and resources to develop high quality utilities data in an effort to meet the needs of (1) the Watershed Engineering group for capacity modeling and design, (2) the Utilities group for planning, operation, and maintenance, and (3) the GIS group for maintaining the Utilities Web Application. The primary goal of this project is to enable a programmatic level approach for collecting, managing, and maintaining these critical data assets, thereby improving overall utilities data quality, reliability, and accessibility for stakeholders across the organization.
14. **“Martinez II and Upper Martinez WWTPs Solids Mass-Balance,”** (6/1/2018- 11/30/2018), resolved a long-standing solids mass-balance issues with Martinez II and Upper Martinez WWTPs by creating a strategic TSS sampling and testing protocol.
15. **“Flow Metering of SARA Utilities,”** (01/1/2018-12/31/2019), Project Manager, a flow monitoring program that is capable of isolating and measuring sewer flows from each wholesale customer and provide data to develop inflow and infiltration estimates and dry weather flow estimates. This data is used to build collection system models and support capital improvement projects.
16. **“Creation of Rating Curves using HEC-RAS Models,”** (1/1/2018-10/30/2018), Technical Lead, created rating curves using HEC-RAS models for SARA environmental sciences departments’ four storm water monitoring sites. Did a comparative analysis between field survey curves, RAS rating curves and field collected data to determine the best option for HSPF calibration.
17. **“Sewershed Modeling_ Martinez II and Upper Martinez WWTPs,”** (9/1/2017- 10/30/2018), Project Manager, plant hydraulics and process models were built for the Martinez II and Upper Martinez WWTPs to assist with expansion planning and daily

operations. A facility planning report documenting build-out flows, recommendations for Martinez II expansion and decommissioning of Upper Martinez WWTP was developed to help with a Design-Build contract in future.

18. **“Sewershed Modeling_Salitrillo WWTPs,”** (9/1/2017-10/30/2017), Project Manager, a new plant hydraulics model was built, and existing process model was updated for Salitrillo WWTP. A facility planning report documenting build-out flows, recommendations for Salitrillo expansion and a Basis for Design Memorandum was developed to include in the procurement package for a Design –Build Contract in future.
19. **“Holistic Watershed Monitoring for E-Coli.,”** (7/1/2017-6/30/2018), Technical Lead, selection of long-term monitoring locations in Leon, Salado and Upper San Antonio River basin watersheds to assist with water quality HSPF model updates. Historical data analysis and interpretation to assist with BMP selection.
20. **“Impervious Cover Mitigation,”** (05/15/2017-06/30/2018), H&H Modeling Lead, an evaluation to understand the impacts of development and of mitigation efforts on flooding and downstream water quality in the Brooks city base center. The existing flooding and water quality conditions for the area were assessed and summarized and the impacts to flooding and water quality of four additional future development scenarios were modeled using Hydrology & Hydraulics (HEC-RAS, HEC-HMS) and water quality HSPF models. I managed H&H modeling and messaging the results for policy changes for the project.

TEACHING ACTIVITIES

Summary: Instructor of 2 undergraduate level, 3 graduate & undergraduate stacked courses.

1. **“WATR 1301- Introduction to Water Treatment”** (Fall semester), this course provides an introduction to the basic chemical, biological and mechanical processes by which conventional water treatment plants operate. Students will also be introduced to the history and evolution of water treatment technologies, as well as examine emerging trends in treatment. The course will provide an introduction to the study of conventional water treatment plants including an introduction to the various sources and problems associated with raw water. Topics discussed will include the theory, chemistry and practice of pretreatment, purification, process control procedures, chlorination systems, water softening, treatment plant safety procedures, and distribution. Students will be exposed to standard equipment, facilities, water transport, safety, and information technologies. Students will also gain an understanding of plant design, basic operation, management, and instrumentation at treatment plants. Hands-on experience with and observation of standard equipment and processes will be provided through a field experience. Students will tour actual water plant operations and learn about water purification at a local level. 3.000 Credit hours 3.000 Lecture hours
2. **“WATR 3320/5314- Pollutants in Environmental Systems”** (Fall semester), this course is the study of the fate of contaminants in natural, disturbed, and man-made water systems. Study will focus on pollutants of concern to public and environmental health, including toxic chemicals, industrial discharges and spills, endocrine disruptor chemicals, methyl mercury, pesticides, sediment-borne contaminants, and other contaminants. Impacts, emergency response, safety advisories, impact on water supplies, and natural remediation processes will be explored, including biodegradation, thermodynamics, aeration, bioaccumulation, state change reactions, acid-base equilibria, speciation, solubility, redox chemistry, dilution, and

sequestration. Prerequisites: CHEM 2371, CHEM 2171. 3.000 Credit hours 3.000 Lecture hours

3. **“WATR 1302- Introduction to Wastewater Treatment”** (Spring semester), this course provides an introduction to the basic chemical, biological and mechanical processes by which conventional wastewater treatment plants operate. Students will also be introduced to the history and evolution of wastewater treatment technologies, as well as examine emerging trends in treatment. Students will be exposed to standard equipment, facilities, water transport, chemical injections, safety, information technology, and theory of wastewater treatment systems. Students will also gain an understanding of plant design, basic operation, management, and instrumentation at treatment plants. Hands-on experience with and observation of standard equipment and processes will be provided through a field experience. 3.000 Credit hours 3.000 Lecture hours
4. **“WATR 3330/5325- Natural and Constructed Green Systems for Wastewater Management”** (Spring semester), Students will learn about using constructed green biological systems to manage raw and treated waste streams from runoff, combined sewer overflows, and treatment facilities across urban and rural landscapes. Students will examine best practices in restoration of wetlands, riparian zones, and other natural areas in a watershed that may function in bioremediation of wastes and augment municipal and industrial treatment. Work will include assessing the effectiveness and value of natural ecologic functions in maintenance of healthy watershed systems and water sustainability. Students will learn from practicing professionals about recent advances in urban and multiple use planning that incorporate extensive use of greenways and other green infrastructure for management of water distribution, wastes, and sustainable water systems, as well as support local agriculture and industry. Prerequisite: WATR 3325. 3.000 Credit hours 3.000 Lecture hours
5. **“WATR 5322- Wastewater Treatment for Direct and Indirect Uses”** (Summer semester) This course examines the technologies required to produce safe drinking water and pretreated water for human uses and manufacturing from treated wastewater, surface, and groundwater sources. Course content includes study of the chemical and physical basis for using treatment media, including filtration, clarification, cartridge filtration, bag filtration, membrane filtration, silt dispersants, biocides, acids, scales inhibitors, sulfite compounds, ultraviolet irradiation and softening. Course content includes examining the characteristics of feed water contaminants and the fundamental principles of ion exchange water purification using ion exchange technology. Additional topics include in-depth problems that arise in the five steps of water production: mixing, flocculation, coagulation, sedimentation, filtration, and disinfection. Students will expand their understanding of the chemistry involved in the disinfection of water and special treatment processes for taste and odor, water stabilization, and associated issues. 3.000 Credit hours 3.000 Lecture hours
6. **“WATR 3312/5312- Water Laws, Rules, and Policy”** (Spring- Guest lecture), this course provides an introduction to local, state, and federal laws, rules, regulations and policies relevant to the science and management of water and associated water resources, with an emphasis on learning about practical application and professional practice through lectures by and discussion with practicing professionals in water-related industries. Students will receive an introduction to the history and function of water laws, rules, and policies and how they are created, including the roles of the three branches of government and the public. Relevant U.S. and Texas laws, rules, and policies governing water resources will be reviewed and evaluated in detail, including the Clean Water Act, Safe Drinking Water Act,

Endangered Species Act, and National Environmental Policy Act. Students will examine federal, state and local approaches to water allocation, water rights, pollution control and water resource management. Students will explore the challenges of law making and regulatory processes and may discuss alternative strategies for water pollution control and resources management, water ownership, water sustainability, voluntary approaches, real-time information feedback, application of new technologies applications, and economic incentives and other market-based mechanisms. Students will become familiar with the political environment within which water laws and public policy are created, including the roles of advocates, consumers, elected officials, water-related boards and commissions, shareholders, and other influencers. 3.000 Credit hours 3.000 Lecture hours

SELECTED GRANTS (Completed)

Summary: Research team lead for 4 funded projects. Many of these projects placed particular emphasis on water quality issues in open and closed channels. Supervision of 3 research groups with a total of 13-17 LTEs, FTEs & Interns.

1. **“Technology Assistance to Missouri Utilities to Meet DBP Standards,”** (01/01/2012-06/30/2017), Supervisor & Lead Researcher, water sample collection and analysis to assist in determining optimal strategies for enhancing treatment process performance for a ***small drinking water system***, funded by the Missouri Department of Natural Resources (MDNR) through the MU Water Resources Research Center, WRRC
2. **“Community Water Fluoridation Curriculum Development,”** (08/01/2016-06/30/2017), Instructor & Course Design Lead, provided training and technical assistance to water system operators, civil engineers, city managers, and other local decision-makers regarding the practice of community water fluoridation, funded by the Missouri Department of Health and Senior Services through the MU Water Resources Research Center, WRRC
3. **“Improving Drinking Water Quality for Small Rural Communities in Missouri (EPA-G2011_STAR-G1),”** (01/01/2012-12/31/2014), Lead Researcher, The study focused on technology development for ***small community drinking water treatment systems*** that would help them address water quality concerns, primarily disinfection by-products (TTHM and N-nitrosamines) with an emphasis on enhanced solids contact and activated carbon baffle walls with MU taking the lead on the actual technology development while Lincoln University (LU) and Missouri University of Science and Technology (MST) each concentrated on various aspects of the water quality analysis, funded by the Environmental Protection Agency’s Science to Achieve Results (STAR) Program (PI: John Yang; Co-PIs: Enos Inniss, Honglan Shi, Bin Hua)
4. **“Studying Distribution System Hydraulics and Flow Dynamics to Improve Water Utility Operational Decision Making,”** (08/01/2011-05/31/2012), Supervisor & Lead Researcher, This research sought to better understand the impact of water distribution system flow dynamics by testing the efficacy and resiliency of the real-time hydraulic/water quality model using stored SCADA data in order to understand the potential accuracy of such models, and understand the relationship between observed water quality changes and network flow dynamics, funded by the National Institute for Hometown Security through the University of Kentucky (PI: Robert Reed; collaborator: Enos Inniss)
5. **“Missouri Technical Assistance Center,”** (07/01/2011-08/31/2012), Lead Researcher, water sample collection and analysis to determine strategies for enhancing treatment process

performance for small drinking water systems, funded by the United States Environmental Protection Agency (EPA) through the MU Water Resources Research Center

6. **Best Management Practices of Total Phosphorous for the Atascosa River Basin** (01/26/2011-05/13/2011), Lead Researcher, supported by the Center for Research Excellence in Science and Technology - Research on Environmental Sustainability in Semi-Arid Coastal Areas (CREST-RESSACA), Texas A&M University; built a Point-source loading MATLAB model using BASINS-PLOAD to predict total phosphorus concentration in the Atascosa River Basin using only publicly available data. Created the framework for determining the best management practices for the watershed.

PUBLICATIONS AND CREATIVE WORKS

Summary: 4 referred journal articles either accepted or in review; 2 book chapters in preparation; 9 refereed technical reports; 1 archival journal papers & 2 book chapters in preparation; 8 conference papers refereed by abstract.

Doctoral Dissertation Title

Management of DBP formation using enhanced treatment technologies and an array of prediction tools; Dissertation Advisor: Enos C. Inniss; Committee: Baolin Deng, Jack Jones, Kathleen Trauth

Masters' Thesis Title

DBP Formation Variables Needed to Model Fate in Small Utility Distribution Systems; Thesis Advisor: Enos C. Inniss; Committee: Thomas Clevenger, Allen Thompson

Articles published in Journals (* indicates the corresponding author)

1. Poleneni, S.R.* and Inniss, E.C. (2019) Array of Prediction Tools for Understanding Extent of Wall Effects on DBP formation in Drinking Water Distribution Systems. *Journal of Water Supply: Research and Technology (AQUA)*, UK. doi: 10.2166/aqua.2019.002.
2. Poleneni, S.R.*, Inniss, E.C., Shi, H., Yang, J., Hua, B. and Clamp, J. (2019) Enhanced Flocculation Using Drinking Water Treatment Plant Sedimentation Residual Solids. *Journal of Water*. 11(9) 182. DOI: 10.3390/w11091821
3. Poleneni, S.R.* and Inniss, E.C. (2015) Small Water Distribution System Disinfection By-Product Control: Water Quality Management Using Storage Systems,” *International Journal of Geotechnique, Construction Materials and Environment (GEOMATE)*, Vol. 9, No. 1, (Serial 17), 1365-1369.
4. Poleneni, S.R.* and Inniss, E.C. (2013) Small Water Distribution System Operations and Disinfection By Product Fate. *Journal of Water Resource and Protection* 5(8A), 35-41. DOI 10.4236/jwarp.2013.58A005

Chapters in Books

1. Poleneni, S.R. (2020) “Recent research Trends in controlling various types of DBPs focussing the latest model used for controlling the formations of DBPs,” M.N.V. Prasad (Ed.) Disinfection by Products in Drinking Water: Detection and Treatment, Ed book. Elsevier UK ISBN 978-0-08-102978-7. doi.org/10.1016/B978-0-08-102977-0.00015-9
2. Poleneni, S.R. (2020) “DBP regulatory compliance framework focussing overview of the global regulations,” M.N.V. Prasad (Ed.) Disinfection by Products in Drinking Water:

Journal Articles & Chapters in Preparation (* indicates the corresponding author)

1. Poleneni, S.R.*, Inniss, E.C. and Rood, B. DBP Formation Potential with Enhanced Flocculation in Drinking Water Treatment Plants *To be submitted to Journal of Water Research*.
2. Poleneni, S.R.*, M.N.V. Prasad (Ed.), Vithanage, M (Ed.) Challenges from microplastics during water treatment *To be submitted to John Wiley Publications*
3. Poleneni, S.R.*, Smol, M. (Ed.), Stefanakis, A. (Ed.), and M.N.V. Prasad (Ed.) Blue economy: opportunities and challenges *To be submitted to Springer Publications*

Bulletins, Reports, or Conference Proceedings that have undergone Editorial or Peer Review

1. Poleneni, S.R. and E.C. Inniss (November 2019) “Enhanced TOC Removal Using Drinking Water Treatment Plant Residual Solids: Effect on Chlorine Residua; & DBPs Formation” Proceedings of the AWWA Water Quality Technology Conference, Dallas, Texas, USA
2. Poleneni, S.R. and E.C. Inniss (March 2015) “Enhanced TOC Removal Using Treatment Plant Residuals,” MWEA/Mo-AWWA Annual Conference, Osage Beach, MO
3. Poleneni, S.R. and E.C. Inniss (November 2014) “Small Water Distribution System Disinfection By-Product Control: Water Quality Management Using Storage Systems,” Fourth International Conference on Geotechnique, Construction Materials and Environment (GEOMATE), Brisbane, Australia.
4. Poleneni, S.R. and E.C. Inniss (November 2014) “Disinfection by Products: Formation Kinetics, Control Technologies, Operational Strategies and Asset Management,” Twentieth Mid-America Environmental Engineering Conference, Rolla, Missouri.
5. Poleneni, S.R. and E.C. Inniss (March 2013) “Quantification of Change in Disinfection By-Product (DBP) Formation Kinetics under a set of Operational Conditions typical to Small-Scale Water Utilities,” MWEA/Mo-AWWA Annual Conference, Osage Beach, MO
6. Inniss, E. C., S.R. Poleneni, C.M. Roberts, R.E. Reed, and T.E. Clevenger (October 2012) “Approaches to Optimizing DBP Compliance in Small Water Utilities,” Proceedings of the AWWA Water Quality Technology Conference, Toronto, CA. (ST08WED: Assessing and Reducing Vulnerability of Small Systems to Water Quality Failure; CD-ROM)
7. Poleneni, S.R. and E.C. Inniss (October 2012) “Quantification of Change in Disinfection By-Product (DBP) Formation Kinetics under a set of Operational Conditions typical to Small-Scale Water Utilities,” Eighteenth Mid-America Environmental Engineering Conference, Edwardsville, Illinois.
8. Poleneni, S.R. and E.C. Inniss (June 2012) “Modeling Disinfection by Product Formation in Small Scale Distribution System within the Constraints of Resource Availability,” AWWA-Annual Conference and Exposition (ACE), Dallas, Texas.
9. Poleneni, S.R. and E.C. Inniss (March 2012) “Modeling DBP Formation in a Small Distribution System within the Constraints of Resource Availability,” MWEA/Mo-AWWA Annual Conference, Osage Beach, MO
10. Primary Researcher- Analysis of Water Quality Trading Programs in Chesapeake Bay (a peer reviewed comprehensive report on water quality trading policy and implementation) (January- May, 2015) “Implementation of Water Quality Trading Policy in USA: A case study on Chesapeake Bay Water Quality Trading Programs” To be Reviewed by Dr.

Kathleen Trauth, Ph.D., P.E., Croft Associate Professor, Water Research Center, University of Missouri, Columbia, MO.

11. Primary Researcher- Hydrological Measurements and Synthesis (a peer-reviewed set of technical reports on hydrological processes and their measurements in the field) (August-December, 2011) “Watershed study & design, Stream flow analysis, Ground water flow analysis, Canopy cover & stomatal conductance measurements, Prairie management, Climate measurements, Wetland feasibility analysis” Reviewed by Dr. Jason Hubbart, Associate Professor, Forest Hydrology and Water Quality, University of Missouri, Columbia, MO.
12. Team Leader– Enforcement of Greenhouse Gas Regulations in US (a peer-reviewed comprehensive report on CA Assembly Bill #32 division 25.5 §38500-38599 of the Health and Safety Code) (March 2013) “Understanding and analyzing the implementation/enforcement policy of GHGs reduction Bill/Law” Reviewed by Dr. Angela Hull, Ph.D., Adjunct Professor, Truman School of Public Affairs, University of Missouri, Columbia, MO.
13. Team Leader– Enforcement of Greenhouse Gas Regulations in US (a peer-reviewed comprehensive report on CA Assembly Bill #32 division 25.5 §38500-38599 of the Health and Safety Code) (December, 2013) “Cap & Trade vs. Command & Control: an economic analysis of policy implementation” Reviewed by Dr. Irma Arteaga, Assistant Professor, Truman School of Public Affairs, University of Missouri, Columbia, MO.
14. Primary Researcher- Scientific and Political Analysis of Hypoxia in Gulf of Mexico (multiple peer-reviewed scientific and policy reports) (October 2013) “Comprehensive political framework to address hypoxia in Gulf of Mexico” Reviewed by Roger Still, Senior Associate for Conservation and Sustainable Development, Community Initiatives, Missouri.
15. Primary Researcher (December 2013) “Hypoxia in limnological terms: a comprehensive scientific approach for remediation of water quality” Reviewed by Dr. Jack Jones, Editor-in-Chief, Inland Waters Journal of International Society of Limnology (SIL).
16. Primary Researcher- Environmental Impact Analysis of Keystone XL Pipeline (a peer-reviewed report on S.582 113th Congress, 2013-2015) (December 2013) “Stewarts of America: an analytical approach to a social problem” Reviewed by Roger Still, Senior Associate for Conservation and Sustainable Development, Community Initiatives, Missouri.
17. Primary Researcher– Dredge and Fill Permits Under Clean Water Act (a peer-reviewed comprehensive report on legal framework of CWA §404 permitting process) (April 2014) “Ropanos v. United States: a story of clarity” Reviewed by Dr. Carlos Sun, Ph.D., J.D., P.E., Associate Professor, University of Missouri, Columbia, MO.
18. Primary Researcher- Methanogens and Methanotrophs (a peer-reviewed technical paper on microbiology of methane production by methanogenesis) (May 2014) “Methanogens and Methanotrophs: Production, Consumption and Emission of Methane; an overview of factors influencing the concentrations of methane and control strategies” Reviewed by Dr. Zhiqiang Hu, Associate Professor, Department of Civil & Environmental Engineering, University of Missouri, Columbia, MO.

ACADEMIC TRAINING

Ph.D. Civil Engineering, Specialty: Environmental Engineering (July 2017)

Department of Civil & Environmental Engineering, University of Missouri-Columbia, Columbia, Missouri

M.S. Civil Engineering, Specialty: Environmental Engineering (May 2013)

Department of Civil & Environmental Engineering, University of Missouri-Columbia,
Columbia, Missouri

GCPA Public Policy & Science, (December 2013)

Truman School of Public Affairs, University of Missouri-Columbia, Columbia, Missouri

B.S. Civil Engineering, (May 2010)

College of Engineering, Jawaharlal Nehru Technological University, Hyderabad,
Telangana, India

Intermediate College in Math, Physics & Chemistry, (August 2006)

Narayana Junior College, Hyderabad, Telangana, India

PERSONALITY ASSESSMENTS

Strengths Finder: Learner, Arranger, Achiever, Input, Responsibility

MBTI: Extrovert, Sensible, Feeling, Judging (ESFJ)

LICENSES AND CERTIFICATIONS

Professional Engineer, Texas Board of Professional Engineers, License # TX 132672

Registered Environmental Manager, National Registry of Environmental Professionals,
License # 9920012184170809

Project Management Professional, Project Management Institute, License # 2310646

Certified Floodplain Manager, Texas Floodplain Management Association, License # TX
3188-16N

Envision Sustainability Professional, Institute of Sustainable Infrastructure

Hazardous Waste Operations & Emergency Response 40-Hr, Occupational Safety & Health
Administration

****American Institute of Certified Planner**, in the process of obtaining it.

HONORS

1. 2014 Missouri Water Resource Research Center (MWRRC) '**Paul F. Kufrin Scholarship**'
awardee.
2. 2013 Missouri Water Environment Association (MWEA) '**Robert F. Layton Scholarship**'
awardee.

SARA Representative: SA Tomorrow Phase 2 planning group for Eastside community area and
Hwy 151 & Loop 1604 regional centers.