

Curriculum Vitae

Venkata Sai Vamsi Botlaguduru

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EDUCATION & REGISTRATION

- **Ph.D.**, Civil Engineering, Texas A&M University, College Station, TX (May, 2016)
 - *Dissertation: UV-Sulfite based Advanced Reduction Treatment of Disinfection Byproducts and Perfluorooctane*
- **M.S.**, Biological & Agricultural Engineering, Texas A&M University, College Station, TX (Dec, 2009)
 - *Thesis: Comparison of AERMOD and ISCST3 models for Particulate Emissions from Ground Level Sources*
- **B.Tech.**, Civil Engineering, Acharya Nagarjuna University, India (May, 2007)
- **Engineer-in-Training**, #50345, Texas Board of Professional Engineers
 - Passed **P.E. exam (Environmental)** in October-2018, currently undergoing experience verification

PROFESSIONAL EXPERIENCE

Post-Doctoral Researcher (12/2016 – 03/2019)

Center for Energy & Environmental Sustainability, Prairie View A&M University, Prairie View, TX

- Formulated a stochastic model to isolate the influence of meteorological variability on air quality time-series data.
- Analyzed long-term ozone trends in the Greater Houston Area, and evaluated the impact of emission control programs in lowering NOx and VOC levels.
- Developed three successful grant proposals (\$413,500) to advance research in renewable energy and environmental sustainability.
- Provided daily guidance and supervision to six graduate, and four undergraduate students, and mentored them in engineering research.

Environmental Engineer I (08/2016 – 11/2016)

Air Permitting Division, Nebraska Dept. of Environmental Quality, Lincoln, NE

- Reviewed air quality permit applications and determined compliance with applicable federal Clean Air Act regulations for industrial clients (Yahoo! Inc. and Nebraska Corn Processing, LLC).
- Performed engineering calculations in support of permit applications for emergency engines, ethanol plants and feed mills.

RESEARCH GRANTS

- **U.S. Dept. of Transportation** thru Transportation Consortium of South Central States (Tran-SET): *"Lifecycle Environmental Impact of Houston METRO System – Evaluation of Electric Alternatives"*, **Role: Co-PI**; Submitted 08/25/2018; **\$45,000 (Approved for Funding)**
- **U.S. Dept. of Transportation** thru Transportation Consortium of South Central States (Tran-SET): *"Lifecycle Environmental Impact of High-Speed Rail System in the I-45 Corridor"*, **Role: Co-PI**; Project no. 8-17-017PP; **\$68,500 (Funded)**
- **U.S. Dept. of Agriculture** (CBG Program): *"Energy and Nutrient Recovery from Goat Manure by Anaerobic Co-Digestion with Cotton Gin Trash and Food Waste"*, **Role: Co-PI**; 2019-2022. Grant no. 2018-38821-27750; **\$300,000 (Funded)**

PUBLICATIONS

Peer Reviewed Journal Articles

- **V.S.V. Botlaguduru**, R.R. Kommalapati, Z. Huque, *Long-term Meteorologically Independent Trend Analysis of Ozone Air Quality at an Urban Site in the Greater Houston Area*. Journal of the Air & Waste Management Association, (2018). 68(10): 1051-1064.
- I. Hossan, **V.S.V. Botlaguduru**, H. Du, R.R. Kommalapati, Z. Huque. *Air Quality Impact of Biomass Co-firing with Coal at a Power Plant in the Greater Houston Area*. Open Journal of Air Pollution, (2018). 7: 263-285.
- R.R. Kommalapati, M. Shahriar, **V.S.V. Botlaguduru**, H. Du, Z. Huque, *Relative Contribution of Different Source Categories to Ozone Exceedances in the Houston-Galveston-Brazoria Area*. Journal of Environmental Protection, (2018). 9, 847-858.
- R.R. Kommalapati, I. Hossan, **V.S.V. Botlaguduru**, H. Du, Z. Huque, *Life Cycle Environmental Impact of Biomass Co-Firing with Coal at a Power Plant in the Greater Houston Area*. Sustainability, (2018). 10(7): 2193-2210.
- J. Chipindula, **V.S.V. Botlaguduru**, H. Du, R. R. Kommalapati, Z. Huque, *Life Cycle Environmental Impact of Onshore and Offshore Wind Farms in Texas*. Sustainability, (2018). 10(6): 2022-2039.
- B. Jung, A. Safan, **V.S.V. Botlaguduru**, B. Batchelor, A. Abdel-Wahab. *Impact of Natural Organic Matter on Bromate Removal in the Sulfite/UV-L Advanced Reduction Process*. Water Science and Technology: Water Supply, (2016). 17 (2): 461-471.
- L. Wang, B. Batchelor, S.D. Pillai, **V.S.V. Botlaguduru**. *Electron Beam Treatment for Potable Water Reuse: Removal of Bromate and Perfluorooctanoic Acid*. Chemical Engineering Journal, (2016). 302: 58-68.
- **V.S.V. Botlaguduru**, B. Batchelor, A. Abdel-Wahab. *Application of UV-Sulfite advanced reduction process to bromate removal*. Journal of Water Process Engineering, (2015). 5: 76-82.
- W.B. Faulkner, L.B. Goodrich, **V.S.V. Botlaguduru**, S.C. Capareda, C.B. Parnell. *Particulate Matter Emission Factors for Almond Harvest as a Function of Harvester speed*. Journal of the Air and Waste Management Association, (2009). 59: 943-949.

Journal Articles under Review

- **V.S.V. Botlaguduru**, L. Wang, B. Jung, A. Abdel-Wahab, B. Batchelor. *Defluorination of Aqueous Perfluorooctanoic (PFOA) acid with UV-Sulfite Advanced Reduction Process: Kinetics and Effect of Process Variables*. Sustainable Environment Research. (Accepted-minor revisions)
- **V.S.V. Botlaguduru**, R.R. Kommalapati. *Meteorological Detrending of Long-Term (2003-2017) Ozone and Precursor Concentrations at Three Sites in the Houston Ship Channel Region*. Journal of the Air & Waste Management Association.
- R.R. Kommalapati, H. Du, S.P. Potluri, **V.S.V. Botlaguduru**. *Treatment of Shale Oil Produced Water with Zwitterion-Modified Forward Osmosis Membrane*. Water and Environment Journal.
- A. Howard, **V.S.V. Botlaguduru**, H. Du, R.R. Kommalapati, Z. Huque. *Measurements and Comparative Air Quality Analysis of a Goat Farm Operation*. Transactions of ASABE.

Conference Presentations/Posters

- Jesuina Chipindula, **Venkata S.V. Botlaguduru**, Doeun Choe, Raghava Kommalapati. *"Lifecycle Environmental Impact of High-Speed Rail System in the Houston-Dallas I-45 Corridor"*. 2019 Transportation Consortium of South-Central States Conference. San Antonio, Texas. April 11-12, 2019.
- Brittani Turner, **Venkata S.V. Botlaguduru**, Hongbo Du, Raghava Kommalapati. *"Pretreatment of Shale oil Produced Water with Softening, Coagulation and Flocculation"*. 15th Annual Texas A&M

University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.

- De Jaune' Bickham, **Venkata S.V. Botlaguduru**, Hongbo Du, Raghava Kommalapati. *"Investigating the Anaerobic Co-Digestion of Food Waste at the Prairie View A & M University Campus Dining Facility"*, 15th Annual Texas A&M University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.
- Ayobami Orangun, **Venkata S.V. Botlaguduru**, Hongbo Du, Raghava R. Kommalapati. *"Investigation of Anaerobic Co-Digestion of Goat Manure for Biochemical Methane Recovery"*, 15th Annual Texas A&M University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.
- Raghava Kommalapati, Arndreya Howard, Hongbo Du, and **Venkata S.V. Botlaguduru**. *"Analysis and Development of Emission Factors for Goat Farm Operations"*. A&WMA's 111th Annual Conference & Exhibition. Hartford, CT. June 25-28, 2018.
- Raghava Kommalapati, Iqbal Hossan, Hongbo Du and **Venkata S.V. Botlaguduru**. *"Air Quality Effects of Biomass Co-firing with Coal at a Houston Area Power Plant"*. A&WMA's 111th Annual Conference & Exhibition. Hartford, CT. June 25-28, 2018.
- Raghava Kommalapati, Jesuina Chipindula, **Venkata S.V. Botlaguduru**, and Hongbo Du. *"Life Cycle Environmental Impact of Onshore and Offshore Wind Farms in Texas: Sensitivity Analysis for Material and Manufacturing Stages"*. A&WMA's 111th Annual Conference & Exhibition. Hartford, CT. June 25-28, 2018.
- Mirjalal Babayev, Hongbo Du, **Venkata S.V. Botlaguduru**, and Raghava Kommalapati. *"The Effect of Pretreatment with L-DOPA Modified Ultrafiltration on the Forward Osmosis for Produced Water Treatment"*. The 2018 Land Grant Research Symposium at Prairie View A&M University. April 18, 2018.
- Brittani Turner, Mirjalal Babayev, Hongbo Du, **Venkata S.V. Botlaguduru**, and Raghava Kommalapati. *"Evaluation of Coagulation and Flocculation as Pretreatment of Produced Water for COD and Turbidity Reduction"*. The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
- Mirjalal Babayev, Hongbo Du, **Venkata S.V. Botlaguduru**, and Raghava Kommalapati. *"The Effect of Pretreatment with L-DOPA Modified Ultrafiltration on the Forward Osmosis for Produced Water Treatment"*. The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
- Arndreya Howard, **Venkata S.V. Botlaguduru**, Hongbo Du and Raghava Kommalapati. *"Analysis of Air Pollutant Emissions from a Goat Farm Operation"*. The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
- Ansaarullah R. Diop, Arndreya Howard, Hongbo Du, **Venkata S.V. Botlaguduru**, and Raghava Kommalapati. *"Analysis of Air Emissions at a Goat Farm Operation"*. The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
- Arndreya Howard, Hongbo Du, **Venkata S.V. Botlaguduru** and Raghava Kommalapati. *"Analysis of Air Pollutant Emissions and Meteorological Impacts and at a Goat Farm Operation"*. 2018 ERN Conference in STEM. Washington, DC. February 22-24, 2018.
- I. Hossan, H. Du, **V.S.V. Botlaguduru**, R.R. Kommalapati. Impact of Biomass Cofiring with Coal on the Air Quality of the Houston Area. The ASAR International Conference on Renewable Energy, Green Technology & Environmental Science, Bhubaneswar, India, Asian Society for Academic Research. December 17th, 2017.

- J. Chipindula, H. Du, **V.S.V. Botlaguduru**, R.R. Kommalapati. Evaluation of the Life Cycle Environmental Impact of Onshore and Offshore Wind Farms in Texas. International Conference on Environmental Systems Research, Singapore, Environment and Agriculture Society. December 14-16, 2017.
- I. Hossan, H. Du, **V.S.V. Botlaguduru**, R.R. Kommalapati. Effects of Biomass Cofiring with Coal on Air Quality in the Greater Houston Area. A&WMA's 110th Annual Conference, Pittsburgh, PA, Air & Waste Management Association. June 5-8, 2017.
- **V.S.V. Botlaguduru**, B. Batchelor, A. Abdel-Wahab. "*Bromate removal using Sulfite-UV Advanced Reduction Process*". Water Quality Technology Conference, Long Beach, CA, American Water Works Association. Nov 3-6, 2013.
- **V.S.V. Botlaguduru**, J.D. Wanjura, R.O. McGee, and C.B. Parnell. "*Comparison of AERMOD and ISCST3 Emissions Factors for PM from Cotton Harvesting*". Beltwide Cotton Conference, The Cotton foundation. New Orleans. Louisiana, Jan 4-7, 2010.

TEACHING EXPERIENCE

Guest Lecturer (Fall 2017, 2018)

Dept. of Civil & Environmental Engineering, Prairie View A&M University, Prairie View, TX

- Developed a lecture module on fundamentals of life cycle assessment (LCA) for senior/graduate level courses.
- Delivered lectures on LCA to GNEG 5193, graduate multidisciplinary course in Energy & Sustainability.
- Delivered lectures on unit operations in environmental engineering to CVEG 5133, graduate course in Civil Engineering.
- Conducted laboratory sessions for environmental engineering coursework.

Graduate Teaching Assistant (Fall 2009, 2011, 2012)

Dept. of Civil Engineering, Texas A&M University, College Station, TX

Dept. of Biological & Agricultural Engineering, Texas A&M University, College Station, TX

- Prepared lecture PowerPoint slides and homework assignments, for two senior-level courses: *Engineered Environmental Systems (CVEN 402)* and *Air Pollution Engineering (BAEN 477)*
- Conducted help sessions covering design of air pollution and wastewater treatment systems.
- Trained students on dispersion modeling software and meteorological data processing.

PROFESSIONAL AFFILIATIONS & SERVICE

- Member, American Water Works Association (AWWA) (#02438277)
- Member, Air & Waste Management Association (AWMA) (#1253343)
- *Reviewer*, Elsevier Journals: Environmental Chemical Engineering, Water Process Engineering
- *Guest Editor*, Sustainability (MDPI Journal)
- *Mentor*, Summer Research Experience for High School Students, Prairie View A&M University (2017)
- *Officer*, Texas A&M University Chapter-Association of Environmental Engineering Students (2013)
- *Presenter*, Energy Engineering Minor – Coursework and Career Opportunities. Introductory Sessions to Freshman Engineering Students, Prairie View, TX, July 20, 2018. Prairie View A&M University.