

Curriculum Vitae

Hongbo Du

Research Scientist and Graduate Faculty

NSF CREST Center for Energy & Environmental Sustainability (CEES)
Prairie View A&M University

EDUCATION

Ph.D. Mechanical Engineering --- 2011 Colorado State University, Fort Collins, USA

M.S. in Mechanical Engineering --- 2002 Beijing Forestry University, Beijing, China

B.S. in Mechanical Engineering --- 1999 Beijing Forestry University, Beijing, China

WORKING EXPERIENCE

February 2020 - Present Research Scientist Prairie View A&M University

February 2015 - January 2020 Postdoctoral Researcher Prairie View A&M University

- ◆ Studying shale gas & oil produced water treatment using various membrane technologies
- ◆ Working on energy sustainability of biofuels including bioethanol and biodiesel, electrical vehicles, and renewable energies
- ◆ Worked on applications of polyethylenimine impregnated on titanate nanotubes in post-combustion CO₂ capture with computational fluid dynamics and experiments
- ◆ Helping my supervisor teach the graduate course **Energy Sustainability (more than 30 students in five years)**, and the undergraduate course **Environmental Engineering (more than 100 students in three years)**
- ◆ **Helped my supervisor to mentor more than 10 master and more than 40 undergraduate student researchers at CEES.** One graduate student won third place at the Texas A&M University System's 16th Annual Pathways (2019), 1 one graduate student won first place of oral research presentation and one undergraduate student won second place in the land-grant research symposium at PVAMU (2018); one graduate student won the third place in the 13th annual research symposium at PVAMU (2018); one undergraduate student won the second place at the Texas A&M University System's 13th Annual Pathways Student Research Symposium (2016), and one graduate student won the first place in an American national conference (2016).

2012 - 2015 Post-doctoral Researcher University of Arkansas, USA

2007 - 2011 Graduate Research Assistant Colorado State University, USA

**2002 - 2006 Patent Examiner Patent Office of the State Intellectual Property Office
Patent Examination**

1999 - 2002 Graduate Research Assistant Beijing Forestry University, China

PROFESSIONAL AFFILIATIONS

1. Guest Editor of Sustainability for a specific issue (2019): Energy Technologies and Life Cycle Assessment
 2. Reviewer of the journals: Renewable & Sustainable Energy Reviews, Conservation & Recycling Resources, Journal of Cleaner Production, Progress in Additive Manufacturing, Energy Technology, Surface and Coatings Technology, Journal of Nanomaterials, Separation Science and Technology, Journal of Renewable and Sustainable Energy, Metallurgical and Materials Transactions E: Materials for Energy Systems, Journal of Chemistry, Tribology in Industry, Journal of Materials Engineering
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- Updated on September 9, 2021

and Performance, Journal of Molecular Liquids, Asia-Pacific Journal of Chemical Engineering, Journal of Molecular Modeling, International Journal of Photoenergy, Advances in Materials Science and Engineering, Journal of Material Sciences and Engineering, International Journal of Computational Materials Science and Engineering, Materials Sciences and Applications, Journal of Powder Metallurgy & Mining.

AWARD

1. Merit award at Prairie View A&M University in 2017
2. Mentor recognition of student employment “Earn and Learn” Program at Prairie View A&M University in 2017.

GRANTS

1. Serving as **Co-PI** in CEES Phase II funded by NSF. Project Title: NSF Crest Center for Energy and Environmental Sustainability Phase II. \$5,000,000, Oct. 2019-Sep. 2024.
2. Serving as **Co-PI** in a Tan-SET-funded project proposal. Project Title: Potential Use of Renewable Diesel for Transportation in Texas and its Environmental Impacts. \$60,000, Aug. 2021-Jan. 2023.
3. Serving as **Co-PI** in a Tan-SET-funded project proposal. Project Title: Investigation of the Impact of Rainfall Patterns on Highway Slope Instability. \$70,000, Aug. 2021-Jan. 2023.
4. Serving as **Co-PI** in a USDA-CBG funded project. Project Title: Zero-Waste Poultry Processing with Sequential Membrane Separation and Anaerobic Digestion. \$500,000, May 2020-Apr. 2023.
5. Serving as **Co-PI** in a USDA-CBG funded project. Project Title: Energy and Nutrient Recovery from Goat Manure by Anaerobic Co-Digestion with Cotton Gin Trash and Food Waste. \$300,000 Feb. 2018-Jan. 2022.
6. Serving as **Research Scientist in** an NSF-funded project. Project Title: Excellence in Research-A Novel High Throughput Forward Osmosis Membrane for Produced Water Treatment. \$500,000. Aug. 2019-Jul. 2022.
7. Served as **Co-PI** in a Tran-SET-funded project. Project Title: Life Cycle Environmental Impact of Houston METRO System – Evaluation of Electric Alternatives. \$46,500 Sep. 2019-Feb. 2021.
8. Served as **Co-PI** in a mini-grant at Prairie View A&M University \$20,000. Summer 2017

PUBLICATIONS (Total citation of 899 based on the Google Scholar citation report in Sep. 2021) <https://scholar.google.com/citations?user=rOyLOKYAAAAJ&hl=en&oi=ao>

(a) Peer-reviewed book

1. Osmotically Driven Membrane Process: Approach, Development and Current Status. Editors: **Hongbo Du**, Audie Thompson, and Xinying Wang. 2018. ISBN: 978-953-51-5688-8. Publisher: InTechOpen, Inc. The electronic version has been downloaded more than 15,000 times.

(b) Peer-reviewed journal articles

1. **Hongbo Du** and Raghava R. Kommalapati, “Environmental Sustainability of Public Transportation Fleet Replacement with Electric Buses in Houston, a Megacity in the USA” *International Journal of Sustainable Engineering*. 2021, 1-13. <https://doi.org/10.1080/19397038.2021.1972491>
2. Faryal Fatima, **Hongbo Du**, and Raghava R. Kommalapati. "Treatment of Poultry Slaughterhouse Wastewater with Membrane Technologies: A Review." *Water* 13, no. 14 (2021): 1905.

3. Jesuina Chipindula, **Hongbo Du**, Venkata S.V. Botlaguduru, Doeun Choe, and Raghava R. Kommalapati. "Life cycle Environmental Impact of High-Speed Rail System in the Houston-Dallas I-45 Corridor" *Public Transport*, Feb. 2021, 1-21. <https://doi.org/10.1007/s12469-021-00264-2>
4. Hossan, Iqbal, **Hongbo Du**, and Raghava R. Kommalapati. "Anthropogenic Source Contributions to Ozone Formation in the Greater Houston Area." *Journal of Environmental Protection* 12 (2021): 249-264.
5. Upadhaya, Poojan, **Hongbo Du**, and Raghava R. Kommalapati. "Meteorological Detrending of Ozone at Three Sites in the Dallas-Fort Worth Area: Application of KZ Filter Method." *Atmosphere* 2020, 11(11): 1226.
6. **Hongbo Du**, Fang Deng, Raghava R. Kommalapati, Ananda S. Amarasekara. "Iron-based Catalysts in Biomass Processing" *Renewable & Sustainable Energy Reviews*. 2020, 134, 110292.
7. Bandara, Subhani, **Hongbo Du**, Laura Carson, Debra Bradford, and Raghava Kommalapati. "Agricultural and biomedical applications of chitosan-based nanomaterials." *Nanomaterials* 2020, 10(10): 1903.
8. Hyoung-Chul Kim, **Hongbo Du**, Raghava R. Kommalapati, Ziaul Huque, and Xinhua Shen. "Computational fluid dynamic simulation Simulation Modeling of Carbon Capture using Polyethylenimine Impregnated Protonated Titanate Nanotubes" *Energy Science & Engineering* 2020, 8(7) 2311-2321. DOI: 10.1002/ese3.665.
9. Arndreya Howard, Venkata. S. Botlaguduru, **Hongbo Du**, Raghava. R. Kommalapati, Ziaul Huque "Measurements and Comparative Air Quality Analysis of a Goat Farm Operation" *Transactions of the ASABE* 2020 62(6): 1723-1733.
10. Raghava R. Kommalapati, **Hongbo Du**, Melisa L. Stewart, Xinhua Shen, and Ziaul Huque. "The Effects of Synthesis Conditions on the Carbon Capture Capacity of Polyethylenimine Impregnated Protonated Titanate Nanotubes" *Science of Advanced Materials* 2020, 12, 228-236.
11. Babayev, Mirjalal, **Hongbo Du**, Venkata SV Botlaguduru, and Raghava R. Kommalapati. "Zwitterion-Modified Ultrafiltration Membranes for Permian Basin Produced Water Pretreatment" *Water*. 2019 11(8), Article ID: 1710.
12. Raghava R. Kommalapati, **Hongbo Du**, Sai Pradeep Potluri, and Venkata Sai Vamsi Botlaguduru. "Treatment of Shale Oil Produced Water with Zwitterion-Modified Forward Osmosis Membrane" *Journal of Membrane Science & Technology* 2019, 9, Article ID: 200.
13. Ananda S. Amarasekara, Loc H. Nguyen, **Hongbo Du**, Raghava R. Kinetics and mechanism of the solid-acid catalyzed one-pot conversion of D-fructose to 5, 5'-[oxybis(methylene)]bis[2-furaldehyde] in dimethyl sulfoxide. *SN Applied Sciences* 2019, 1, Article ID: 964.
14. Iqbal Hossan, Venkata S.V. Botlaguduru, **Hongbo Du**, Raghava R. Kommalapati, Ziaul 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.
15. Raghava R. Kommalapati, Iqbal Hossan, Venkata S.V. Botlaguduru, **Hongbo Du**, Ziaul Huque. "Life Cycle Environmental Impact of Biomass Co-firing with Coal at a Power Plant in the Greater Houston Area" *Sustainability* 2018, 10(7), Article ID: 2193.
16. Jesuina Chipindula, Venkata S.V. Botlaguduru, **Hongbo Du** and Raghava R. Kommalapati. "Life Cycle Environmental Impact of Onshore & Offshore Wind Farms in Texas" *Sustainability* 2018, 10, Article ID: 2022.
17. **Hongbo Du**, Ziaul Huque and Raghava R. Kommalapati. "Impacts of Biodiesel Applied to the Transportation Fleets in the Greater Houston Area" *Journal of Renewable Energy* Vol.2018, (2018), Article ID 7350715.
18. Xinhua Shen, **Hongbo Du**, Riley H. Mullins, and Raghava R. Kommalapati. "Polyethylenimine Applications in CO₂ Capture and Separation: from Theoretical Study to Experimental work" *Energy Technology* 5, no. 6 (2017), 822-833.

19. **Hongbo Du**, Zizhao Liu, Renee Jennings, and Xianghong Qian. "The effects of salt ions on the dynamics and thermodynamics of lysozyme unfolding" *Separation Science and Technology* 52, no. 2 (2017): 320-331.
20. **Hongbo Du**, Raghava R. Kommalapati and Ziaul Huque, "Assessment of Bioethanol Applications on Transportation Vehicles in Houston" *Journal of Fundamentals of Renewable Energy and Applications* 6, no. 3, (2016): Article No. 1000207.
21. Raghava R. Kommalapati, Shahzeb Sheikh, **Hongbo Du**, and Ziaul Huque. "Life-Cycle Analysis of Bio-Ethanol Fuel Emissions of Transportation Vehicles in Greater Houston Area" *Journal of Environmental Protection* 7, no. 06 (2016): 793-804.
22. **Hongbo Du**, and Xianghong Qian. "The hydration properties of carboxy betaine zwitterion brushes" *Journal of computational chemistry* 37, no. 10 (2016): 877-885.
23. Zizhao Liu, **Hongbo Du**, S. Ranil Wickramasinghe, and Xianghong Qian. "Membrane surface engineering for protein separations: experiments and simulations" *Langmuir* 30, no. 35 (2014): 10651-10660.
24. Heath H. Himstedt, **Hongbo Du**, Kathryn M. Marshall, S. Ranil Wickramasinghe, and Xianghong Qian. "pH-responsive nanofiltration membranes for sugar separations" *Industrial & Engineering Chemistry Research* 52, no. 26 (2013): 9259-9269.
25. **Hongbo Du**, Sumith Ranil Wickramasinghe, and Xianghong Qian. "Specificity in cationic interaction with poly (N-isopropyl acrylamide)" *The Journal of Physical Chemistry B* 117, no. 17 (2013): 5090-5101.
26. **Hongbo Du**, and Xianghong Qian. "The effects of acetate anion on cellulose dissolution and reaction in imidazolium ionic liquids" *Carbohydrate research* 346, no. 13 (2011): 1985-1990.
27. **Hongbo Du**, and Xianghong Qian. "Molecular dynamics simulations of PNIPAM-co-PEGMA copolymer hydrophilic to hydrophobic transition in NaCl solution" *Journal of Polymer Science Part B: Polymer Physics* 49, no. 15 (2011): 1112-1122.
28. **Hongbo Du**, Ranil Wickramasinghe, and Xianghong Qian. "Effects of salt on the lower critical solution temperature of poly (N-isopropyl acrylamide)" *The Journal of Physical Chemistry B* 114, no. 49 (2010): 16594-16604.
29. Yuetao Zhang, **Hongbo Du**, Xianghong Qian, and Eugene Y-X. Chen. "Ionic liquid– water mixtures: enhanced Kw for efficient cellulosic biomass conversion" *Energy & Fuels* 24, no. 4 (2010): 2410-2417.
30. Haitao Dong, **Hongbo Du**, Sumith Ranil Wickramasinghe, and Xianghong Qian. "The Effects of Chemical Substitution and Polymerization on the pKa Values of Sulfonic Acids" *The Journal of Physical Chemistry B* 113, no. 43 (2009): 14094-14101.
31. Haitao Dong, **Hongbo Du**, and Xianghong Qian. "Prediction of pKa Values for Oligo-methacrylic Acids Using Combined Classical and Quantum Approaches" *The Journal of Physical Chemistry B* 113, no. 39 (2009): 12857-12859.
32. Haitao Dong, **Hongbo Du**, and Xianghong Qian. "Theoretical Prediction of pKa Values for Methacrylic Acid Oligomers Using Combined Quantum Mechanical and Continuum Solvation Methods" *The Journal of Physical Chemistry A* 112, no. 49 (2008): 12687-12694.
33. Chao Sa, **Hongbo Du**, Biguang Zhang, and Guozhu Wang. "Detection of Veneer Moisture Content by Surface-circle-shaped Resistance" *Forestry Studies in China*, 5, no. 4 (2003): 41-44.

(c) Peer-reviewed book chapters

1. Layla Ogletree, **Hongbo Du**, and Raghava Kommalapati. 2021, "Shale Oil & Gas Produced Water Treatment: Opportunities and Barriers for Forward Osmosis." In "Osmotically Driven Membrane Processes". InTechOpen Publications (Open Access). <https://doi.org/10.5772/intechopen.96001>.
2. **Hongbo Du**, Subhani Bandara, Laura Carson, and Raghava Kommalapati. "Association of Polyethylene Glycol Solubility with Emerging Membrane Technologies, Wastewater Treatment, and Desalination" in the book "Water Quality – Science, Assessments and Policy" 2020, Arpit Sand (ed). ISBN: 978-1-83880-619-4. Publisher: InTechOpen. <https://doi.org/10.5772/intechopen.89060>

3. Raghava R. Kommalapati, Fiifi Asah-Opoku, **Hongbo Du**, and Ziaul Huque. "Monte Carlo Simulations of Nuclear Fuel Burnup" in Nuclear Material Performance, Chapter 3, Editor(s): Rehab O. Abdel Rahman, Hosam El-Din Mostafa Saleh. 2016, Page: 37-55. Publisher: Intech, Print ISBN 978-953-51-2447-4.
 4. **Du, Hongbo**, and Xianghong Qian. "The Interactions between Salt Ions and Thermo-Responsive Poly (N-Isopropylacrylamide) from Molecular Dynamics Simulations" Chapter 10 in the book "Responsive Membranes and Materials" 2013, Page: 229-242. Editor(s): D. Bhattacharyya, Thomas Schäfer, S. R. Wickramasinghe, and Sylvia Daunert Publisher: Wiley, ISBN: 978-0-470-97430-8.
- (d) Peer-reviewed conference proceedings
1. **Hongbo Du** and Raghava Kommalapati. "Environmental Impacts of Public Transportation Fleet Replaced with Electric Buses in Houston Evaluated by Life Cycle Assessment". The 2021 Tran-SET Conference, Virtual, June 3-4, 2021.
 2. Jesuina Chipindula, **Hongbo Du**, Doeun Choe, and Raghava Kommalapati, "Sensitivity Analysis of Potential Houston-Dallas High-Speed Rail System". the 2020 Tran-SET Conference (Virtual), Albuquerque, NM. September 1–2, 2020.
 3. Raghava Kommalapati, Venkata Botlaguduru, and **Hongbo Du**. "Meteorological Detrending Evaluation of Ozone and Precursor Concentrations Monitored in the Houston Ship Channel Region". A&WMA's 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.
 4. Raghava Kommalapati, Iqbal Hossan, and **Hongbo Du**. "Anthropogenic Source Contributions to Ozone Formation in the Greater Houston Area". A&WMA's 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.
 5. Raghava Kommalapati, **Hongbo Du**, and Doeun Choe. "Environmental Impact Evaluation of the Houston-Dallas High-Speed Rail System using Life Cycle Assessment". A&WMA's 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.
 6. Raghava R. Kommalapati, Jesuina Chipindula, Venkata S.V. Botlaguduru, **Hongbo Du**, Doeun Choe. "Lifecycle Environmental Impact of a High-Speed Rail System in the I-45 Corridor" A&WMA's 112th Annual Conference and Exhibition. Quebec City, Canada. June 25-28, 2019.
 7. Raghava R. Kommalapati, Poojan Upadhaya, Venkata S.V. Botlaguduru, **Hongbo Du**. "Meteorological Detrending of Ozone at Three Sites in the Dallas-Fort Worth Area: Application of KZ Filter and Multiple Linear Regression Analysis" A&WMA's 112th Annual Conference and Exhibition. Quebec City, Canada. June 25-28, 2019.
 8. Arndreya Howard, **Hongbo Du**, Raghava Kommalapati, "Life Cycle Emission Analysis of Renewable Diesel and Ethanol-Diesel for Freight Trucks" Transportation Research Board (TRB) 97th Annual Meeting, Washington D.C., January 7-11, 2018.
 9. **Hongbo Du**, Arndreya Howard, Raghava Kommalapati. "Emission Analysis of Diesels Derived from Biomass used for Hybrid Transportation Fleet" Transportation Consortium of South Central States (Tran-SET) Conference. New Orleans, LA. April 3-4, 2018.
 10. Raghava Kommalapati, Arndreya Howard, **Hongbo Du**, and Venkata Botlaguduru. "Analysis and Development of Emission Factors for Goat Farm Operations" A&WMA's 111th Annual Conference & Exhibition. Hartford, CT. June 25-28, 2018.
 11. Raghava Kommalapati, Iqbal Hossan, **Hongbo Du** and Venkata 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.
 12. Raghava Kommalapati, Jesuina Chipindula, Venkata 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.
 13. Raghava Kommalapati, **Hongbo Du**, Esther Armah, 2017, "Life Cycle Greenhouse Gases and Pollutants Emissions of Electric Vehicles in the US" Proceedings of the A&WMA 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.

14. Xinhua Shen, Hawra Algazwi, Riley Mullins, Tyler Schley, Huanxin Zhang, **Hongbo Du**, Raghava Kommalapati, "Estimating Surface PM_{2.5} Using Satellite AOD Observations and the NASA MERRA2 Model Simulations" Proceedings of the A&WMA 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
15. Xinhua Shen, Natalie Gallegos, Riley Mullins, Molly Standard, **Hongbo Du**, Raghava Kommalapati, "Characterizations of air quality weekend effect in Houston" Texas. Proceedings of the A&WMA 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
16. Iqbal Hossan, **Hongbo Du**, Raghava Kommalapati. 2017, "Effects of Biomass Cofiring with Coal on Air Quality in the Greater Houston Area" Proceedings of the A&WMA 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
17. Raghava Kommalapati, **Hongbo Du**, Sumal Shah, and Ziaul Huque, 2016, "Effects of Biodiesel Applications on the Transportation Fleet in Houston" Air and Waste Management Association (AWMA) 109th Annual Conference & Exhibition, New Orleans, LA, June 20-23, 2016.
18. Xinhua Shen, **Hongbo Du**, Ziaul Huque, and Raghava Kommalapati 2016, "Polyethylenimine Applications in Post Combustion Carbon Capture from Theoretical Study to Experimental Work" Air and Waste Management Association (AWMA) 109th Annual Conference & Exhibition, New Orleans, LA, June 20-23, 2016.
19. Raghava Kommalapati, Md. Tarkik Shahriar, Akhil Kadiyala, **Hongbo Du**, and Ziaul Huque, 2016, "Analyzing Weekday and Weekend Ozone Concentrations in Houston-Galveston-Brazoria Area During 2012 Summer Episode using CAMx" Air and Waste Management Association (AWMA) 109th Annual Conference & Exhibition, New Orleans, LA, June 20-23, 2016.
20. **Hongbo Du**, Raghava R. Kommalapati, and Ziaul Huque. "Life Cycle Assessment of Bioethanol used in Passenger Cars in Houston" The 4th International Conference on Chemical, Ecology and Environmental Sciences (ICEES'2015) Dec. 15-16, 2015 Pattaya (Thailand). Page: 44-49.
21. **Hongbo Du**, S. Ranil Wickramasinghe, and Xianghong Qian. "Molecular Dynamics Simulations of Thermoresponsive Poly(N-isopropyl acrylamide) and Its Copolymer" Euromembrane Conference [OC52] Procedia Engineering 44 (2012) 485 – 488. Arpit Sand (ed). ISBN: 978-1-83880-619-4.

(e) Conference presentations

1. **Hongbo Du**, and Raghava Kommalapati. "Life Cycle Assessment and Life Cycle Cost Analysis of Public Transportation Fleet Replaced with Electric buses in Houston." The 2021 Tran-SET Conference. June 3-4, 2021. Virtual Conference.
2. Layla Ogletree, **Hongbo Du**, and Raghava Kommalapati. "Fabrication Of Forward Osmosis Membrane For shale Oil & Gas Produced Water Treatment." The Annual (2021) Research Symposium at Prairie View A&M University. April 8, 2021. Virtual Conference.
3. Deping Wang, **Hongbo Du**, Ananda S. Amarasekara, and Raghava R. Kommalapati. "Purification and Pyrolysis of Bacterial Cellulose from Kombucha Pellicle." The Annual (2021) Research Symposium at Prairie View A&M University. April 8, 2021. Virtual Conference.
4. Faryal Fatima, **Hongbo Du**, and Raghava Kommalapati. "Treatment of Poultry Slaughterhouse Wastewater with Membrane Technologies." The Annual (2021) Research Symposium at Prairie View A&M University. Virtual Conference. April 8, 2021.
5. Lashavio Little, **Hongbo Du**, and Raghava Kommalapati. "Electrochemical Anodization of Titanium to Fabricate Multi-leg Nanotubes." The Annual (2021) Research Symposium at Prairie View A&M University. Virtual Conference. April 8, 2021.
6. Jesuina Chipindula, **Hongbo Du**, Doeun Choe, and Raghava Kommalapati, "Sensitivity Analysis of Potential Houston-Dallas High-Speed Rail System"; the 2020 Tran-SET Conference (Virtual), Albuquerque, NM. September 1–2, 2020.
7. Raghava Kommalapati, **Hongbo Du**, and Doeun Choe. "Environmental Impact Evaluation of the Houston-Dallas High-Speed Rail System using Life Cycle Assessment". A&WMA's 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.

8. Raghava Kommalapati, Venkata Botlaguduru, and **Hongbo Du**. “Meteorological Detrending Evaluation of Ozone and Precursor Concentrations Monitored in the Houston Ship Channel Region”. A&WMA’s 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.
9. Raghava Kommalapati, Iqbal Hossan, and **Hongbo Du**. “Anthropogenic Source Contributions to Ozone Formation in the Greater Houston Area”. A&WMA’s 112th Annual Conference & Exhibition, Virtual Conference, June 30 – July 2, 2020.
10. Raghava R. Kommalapati, Jesuina Chipindula, and **Hongbo Du**. “Life Cycle Environmental Impact of Onshore and Offshore Wind Farms in Texas” F&R Energy 2020, Houston, TX. February 17-19, 2020.
11. **Hongbo Du**, Hyoung-Chul Kim, Raghava R. Kommalapati, Huque Ziaul, and Xinhua Shen, “Carbon Capture Using Polyethylenimine Functionalized Titanate Nanotubes Studied from Small to Large Scale” F&R Energy 2020, Houston, TX. February 17-19, 2020.
12. Ayobami Orangun, Harjinder Kaur, **Hongbo Du**, and Raghava R. Kommalapati, “Batch anaerobic digestion and biochemical methane potential analysis of food waste and goat manure” The 16th Annual Texas A&M University System Pathways Research Symposium, Laredo, TX. November 7-8, 2019.
13. LaTisha Salsman, **Hongbo Du**, and Raghava R. Kommalapati, “Evaluating the pretreatment of shale oil produced water with caustic soda softening, ultrafiltration, and forward osmosis” The 16th Annual Texas A&M University System Pathways Research Symposium, Laredo, TX. November 7-8, 2019.
14. Esther Armah, **Hongbo Du**, Raghava Kommalapati. “Life Cycle Emissions Analysis of Diesels Derived from Biomass used for Hybrid Heavy Duty Trucks” The 15th Annual Texas A&M University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.
15. Brittani Turner, Venkata Botlaguduru, **Hongbo Du**, Raghava Kommalapati. “Pretreatment of Shale oil Produced Water with Softening, Coagulation, and Flocculation” The 15th Annual Texas A&M University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.
16. De Jaune’ Bickham, Venkata Botlaguduru, **Hongbo Du**, Raghava Kommalapati. “Investigating the Anaerobic Co-Digestion of Food Waste at the Prairie View A & M University Campus Dining Facility” The 15th Annual Texas A&M University System (TAMUS) Pathways Student Research Symposium. Canyon, Texas. November 1-2, 2018.
17. Raghava Kommalapati, Arndreya Howard, **Hongbo Du**, and Venkata Botlaguduru. “Analysis and Development of Emission Factors for Goat Farm Operations” A&WMA’s 111th Annual Conference & Exhibition. Hartford, CT. June 25-28, 2018.
18. Raghava Kommalapati, Iqbal Hossan, **Hongbo Du** and Venkata 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.
19. Raghava Kommalapati, Jesuina Chipindula, Venkata 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.
20. Osayuki Iyawe, **Hongbo Du**, and Raghava Kommalapati. “Environmental Impact of Monocrystalline PV System in Texas” The 2018 Land Grant Research Symposium at Prairie View A&M University. April 18, 2018.
21. 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.
22. Arndreya Howard, Venkata S.V. Botlaguduru, **Hongbo Du** and Raghava Kommalapati. “Analysis of Air Pollutant Emissions from a Goat Farm Operation” The 2018 Land Grant Research Symposium at Prairie View A&M University. April 18, 2018.
23. Cynthia Lewis, Melisa Stewart, **Hongbo Du**, Raghava R. Kommalapati, Ziaul Huque, and Shrabanti Roy. “Post Combustion Carbon Capture Using Polyethylenimine (PEI) Functionalized Titanate

- Nanotubes” 2018 National Energy Technology Laboratory Project Review Meeting for Crosscutting Research Portfolios, Pittsburgh, PA. April 10-12, 2018.
24. Cynthia Lewis, **Hongbo Du**, and Raghava Kommalapati. “Graphene Grafted Titania/Titanate Nanosheets for Photocatalytic Degradation of Organic Compounds in Produced Water” The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
 25. Esther Armah, **Hongbo Du**, and Raghava Kommalapati. “Emissions Analysis of Diesels Derived from Biomass used for Heavy Duty Trucks” The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
 26. Osayuki Iyawe, **Hongbo Du**, and Raghava Kommalapati. “Environmental Impact of Monocrystalline PV System in Texas” The 13th Annual Research Symposium at Prairie View A&M University. April 5, 2018.
 27. 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.
 28. 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.
 29. 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.
 30. 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.
 31. Arndreya Howard, **Hongbo Du**, Raghava Kommalapati. “Life Cycle Emission Analysis of Renewable Diesel and Ethanol-Diesel for Freight Trucks” Transportation Research Board 97th Annual Meeting. Washington D.C. January 7-11, 2018.
 32. Raghava R. Kommalapati, Jesuina Chipindula, **Hongbo Du**, Venkata Botlaguduru. “Evaluation of the Life-Cycle Environmental Impact of Onshore & Offshore Wind Farms in Texas” International Conference on Environmental Systems Research 2017. Singapore, December 14-16, 2017.
 33. Iqbal Hossan, **Hongbo Du**, Venkata Botlaguduru, Raghava R. Kommalapati. “Impact Of Biomass Cofiring with Coal on the Air Quality Of the Greater Houston Area” The ASAR-International Conference on Renewable Energy, Green technology & Environmental Science (ICREGTES). Bhubaneswar, India. December 17th, 2017.
 34. Cynthia Lewis, **Hongbo Du**, Raghava Kommalapati. Carbon Capture Directly from Air: “Literature Review and Preliminary Work of the Capture with Polyethylenimine-Impregnated Titanate Nanotubes” The Texas A&M University System 14th Annual Pathways Student Research Symposium. November 2-3, 2017.
 35. Esther Armah, **Hongbo Du**, Raghava Kommalapati. “Life Cycle Emissions of Passenger Vehicles Powered by Different Technologies” The Texas A&M University System 14th Annual Pathways Student Research Symposium. November 2-3, 2017.
 36. Sai Pradeep Potluri, Mirjalal Babayev, **Hongbo Du**, Venkata Botlaguduru, Raghava Kommalapati. “Shale Oil Produced Water Treatment Using Zwitterion Amino Acid L-DOPA Modified Forward Osmosis Membranes” The Texas A&M University System 14th Annual Pathways Student Research Symposium. November 2-3, 2017.
 37. Arndreya Howard, **Hongbo Du**, Raghava Kommalapati. “Monitoring Air Pollutant Emissions from Goat Farm Operations” The Texas A&M University System 14th Annual Pathways Student Research Symposium. November 2-3, 2017.
 38. Raghava Kommalapati, **Hongbo Du**, Esther Armah. “Life Cycle Greenhouse Gases and Pollutants Emissions of Electric Vehicles in the US” A&WMA's 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.

39. Xinhua Shen, Hawra Algazwi, Riley Mullins, Tyler Schley, Huanxin Zhang, **Hongbo Du**, Raghava Kommalapati. "Estimating Surface PM_{2.5} Using Satellite AOD Observations and the NASA MERRA2 Model Simulations" A&WMA's 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
40. Xinhua Shen, Natalie Gallegos, Riley Mullins, Molly Standard, **Hongbo Du**, Raghava Kommalapati. "Characterizations of air quality weekend effect in Houston, Texas" A&WMA's 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
41. Iqbal Hossan, **Hongbo Du**, Raghava Kommalapati. Effects of Biomass Cofiring with Coal on Air Quality in the Greater Houston Area" A&WMA's 110th Annual Conference & Exhibition, Pittsburgh, PA. June 5-8, 2017.
42. **Hongbo Du**, Xinhua Shen, Esther Armah, Raghava R. Kommalapati. "Life Cycle Analysis of Pollutant and Greenhouse Gas Emissions for Electric Vehicles in the World" The Iowa Academy of Science Annual Meeting in 2017. Cedar Falls, IA. April 21-22, 2017.
43. Melisa Stewart, **Hongbo Du**, Raghava R. Kommalapati, Ziaul Huque, Shrabanti Roy. "Post Combustion Carbon Capture Using Polyethylenimine Functionalized Titanate Nanotubes" 2017 DoE Project Review Meeting For Crosscutting Research, Gasification Systems, and Rare Earth Elements Research Portfolios. Pittsburgh, PA. March 20-23, 2017.
44. Melisa Stewart, **Hongbo Du**, Raghava R. Kommalapati. "Post Combustion Carbon Capture Using Polyethylenimine (PEI) Functionalized Titanate Nanotubes" The 2017 Emerging Researchers National (ERN) Conference in STEM. Washington DC. March 2-4, 2017.
45. Arndreya Howard, **Hongbo Du**, Raghava Kommalapati. "Air quality measurement of poultry farms" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
46. Cynthia Lewis, **Hongbo Du**, Raghava Kommalapati. "Titanium nanomaterials synthesized via hydrothermal treatment" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
47. Esther Armah, **Hongbo Du**, Raghava Kommalapati. "Life cycle analysis of pollutant and greenhouse gas emissions for electric vehicles" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016. (Award: the second place)
48. Iqbal Hossan, **Hongbo Du**, Raghava Kommalapati. "Evaluation of emissions from electricity generation for biomass cofiring with coal" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
49. Jesuina Chipindula, **Hongbo Du**, Raghava Kommalapati. "Evaluating the impact of a wind farm In Texas" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
50. Melisa Stewart, **Hongbo Du**, Raghava Kommalapati. "Carbon capture with polyethylenimine functionalized titanate nanotubes" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
51. Sai Pradeep Potluri, **Hongbo Du**, Raghava Kommalapati. "Produced water treatment using a forward osmosis and reverse osmosis hybrid system" The Texas A&M University System 13th Annual Pathways Student Research Symposium. November 3-4, 2016.
52. Raghava Rao Kommalapati, **Hongbo Du**, Sumal Shah, Ziaul Huque. "Effects of biodiesel applications on the transportation fleet in Houston" The 109th A&WMA Annual Conference & Exhibition, New Orleans, LA. June 20-23, 2016.
53. Raghava Rao Kommalapati, Tarkik Shahriar, Akhil Kadiyala, **Hongbo Du** and Ziaul Huque. (2016). "Analyzing weekday and weekend ozone concentrations in the Houston-Galveston-Brazoria Area during 2012 summer episode using CAMx" The 109th A&WMA Annual Conference & Exhibition, New Orleans, LA. June 20-23, 2016.
54. Xinhua Shen, **Hongbo Du**, Ziaul Huque, and Raghava Kommalapati. "Polyethylenimine applications in post-combustion carbon capture from theoretical study to experimental work" Air and Waste

- Management Association (AWMA) 109th Annual Conference & Exhibition, New Orleans, LA, June 20-23, 2016.
55. **Hongbo Du**, Melisa Stewart, Raghava R. Kommalapati and Xinhua Shen, "Carbon dioxide capture using polyethyleneimine impregnated titanate nanotubes" The 251st ACS National Meeting & Exposition, San Diego, CA. March 13-17, 2016.
 56. Md. Tarkik Shahriar, Raghava Kommalapati, Ziaul Huque, **Hongbo Du**. (2016). "Analysis of pollutant emissions from elevated point sources in the 8-counties of the Houston-Galveston-Brazoria area during 2012 summer episode" The 251st American Chemical Society National Meeting. San Diego, CA. March 13-17, 2016.
 57. Melisa Stewart, **Hongbo Du**, and Raghava R. Kommalapati, 2016, "Carbon (CO₂) capture with a novel solid absorbent of polyethyleneimine (PEI) impregnated titanate nanotubes" The 2016 Emerging Researchers National (ERN) Conference in STEM, Washington, DC, February 25-27, 2016. (Award: the first place).
 58. Xinhua Shen, Samarita Sarker, Huanxin Zhang, **Hongbo Du**, Ziaul Huque, and Raghava R. Kommalapati, "Assessment of 2012 on-road mobile source episode-specific emissions on air quality in Houston" American Geophysical Union (AGU) Fall Meeting, San Francisco, CA. December 14-18, 2015.
 59. **Hongbo Du**, Raghava R. Kommalapati, Ziaul Huque. (2015) "Life Cycle Assessment of bioethanol used in passenger cars in Houston" The 4th International Conference on Chemical, Ecology and Environmental Sciences. Pattaya, Thailand December 15-16, 2015.
 60. Riley Mullins, Xinhua Shen, **Hongbo Du**, Ziaul Huque, and Raghava R. Kommalapati. "Reducing greenhouse gas emissions with advanced nano-engineered materials" Seventh Annual American Chemical Society Undergraduate Research Conference, American Chemical Society Illinois-Iowa Section, St. Ambrose University, Davenport, IA, November 14, 2015.
 61. Travis Burrell, **Hongbo Du**, Ziaul Huque, Raghava Kommalapati, "Biodiesel effects on vehicle emissions in Houston studied from life cycle assessment" Texas A&M University System 12th Annual Pathways Student Research Symposium, Corpus Christi, Texas, October 22-23, 2015.
 62. Sumal Shah, **Hongbo Du**, Ziaul Huque, Raghava Kommalapati. "Life cycle assessment of bio-diesel Fuel Emissions" Texas A&M University System 12th Annual Pathways Student Research Symposium, Corpus Christi, Texas, October 22-23, 2015.
 63. Melisa Stewart, **Hongbo Du**, Raghava Kommalapati. "Carbon capture with a novel solid absorbent of polyethylenimine impregnated titanate nanotubes" Texas A&M University System 12th Annual Pathways Student Research Symposium, Corpus Christi, Texas, October 22-23, 2015.
 64. Xianghong Qian and **Hongbo Du**. "The effects of salt on the free energy of thermo-responsive PNIPAM transition" The 2015 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT. November 8-13, 2015.
 65. Jasmine Kaur, John Chau, **Hongbo Du**, Xianghong Qian, and Kamallesh K. Sirkar. "Organic solvent nanofiltration with novel polymeric membranes" The 2015 Annual Meeting of the American Institute of Chemical Engineers, Salt Lake City, UT. November 8-13, 2015.
 66. Zizhao Liu, **Hongbo Du**, S. Ranil Wickramasinghe, and Xianghong Qian. "Polymeric ligand Affinity Membranes for Protein Separations: Experiments and Simulations" The 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA. November 16-21, 2014.
 67. Xianghong Qian and **Hongbo Du**. "The Effects of salt on the thermodynamics of protein folding" The 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA. November 16-21, 2014.
 68. Xianghong Qian, Guanghui Song, **Hongbo Du**, and S. Ranil Wickramasinghe. "Developing advanced antifouling membranes using complementary experimental and theoretical Methods" The 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA. November 16-21, 2014.
 69. **Hongbo Du** and Xianghong Qian. "Investigating antifouling properties of zwitterionic carboxybetaines from molecular dynamics simulations" The 2014 Annual Meeting of the American Institute of Chemical Engineers, Atlanta, GA. November 16-21, 2014.

70. Xiaoquan Sun, **Hongbo Du**, S. Ranil Wickramasinghe, and Xianghong Qian. "Molecular dynamics Simulations of cellulose interaction with polymeric solid acid" The 2013 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA. November 3-8, 2013.
71. **Hongbo Du** and Xianghong Qian. "The effects of salt on the free energy surface for protein folding" The 2013 Annual Meeting of the American Institute of Chemical Engineers, San Francisco, CA. November 3-8, 2013.
72. Xianghong Qian and **Hongbo Du**. "The effects of solvent on glucose conversion to 5-Hydroxymethylfurfural" The 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA. October 28 - November 2, 2012.
73. **Hongbo Du** and Xianghong Qian. "Structure and property of glucose in DMSO/water mixtures from ab initio molecular dynamics simulations" The 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA. October 28 -November 2, 2012.
74. **Hongbo Du**, S. Ranil Wickramasinghe, and Xianghong Qian. "Molecular dynamics simulations of thermoresponsive poly (N-isopropyl acrylamide) and its copolymer" The 2012 Annual Meeting of the American Institute of Chemical Engineers, Pittsburgh, PA. October 28 - November 2, 2012.
75. **Hongbo Du**, S. Ranil Wickramasinghe, Mathias Ulbricht and Xianghong Qian. "The effects of salt on lower critical solution temperature transition of thermo-responsive Pnipam-Co-PEGMA copolymer" The 2011 Annual Meeting of the American Institute of Chemical Engineers. Minneapolis, MN. October 16 - 21, 2011.
76. **Hongbo Du**, Ranil Wickramasinghe, Xianghong Qian. "The effects of salt on thermo-responsive membrane surfaces" The 9th International Congress on Membranes and Membrane Processes. Amsterdam, Netherlands. 23-29 July 2011.
77. **Hongbo Du** and Xianghong Qian. "The effects of acetate anion on cellulose dissolution and reaction in imidazolium ionic liquids" The 2011 Annual Meeting of the American Institute of Chemical Engineers. Minneapolis, MN. October 16 - 21, 2011.
78. **Hongbo Du**, Ranil Wickramasinghe, and Xianghong Qian. "The effects of salt On LCST of Pnipam. 2010 Annual Meeting" The 2010 Annual Meeting of the American Institute of Chemical Engineers. Salt Lake City, UT. November 7 - 12, 2010.
79. **Hongbo Du**, Ji-Lai Li, Ranil Wickramasinghe and Xianghong Qian. "Molecular dynamics investigation of the effects of ionic strength and pH on LCST of poly (nisopropylacrylamide)" The 2009 Annual meeting of North American Membrane Society, Charleston, SC. June 20-24, 2009.