ZHIWU (DREW) WANG

Ph.D., P.E., Assistant Professor

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SUMMARY METRICS

Publications: 64 Journal papers, h-index 23	**Funding:** $3,335,479 Share
PhD Dissertation Chair: 2 Completed, 7 Current	**MS Thesis Chair:** 3 Completed, 4 Current
Postdoctoral Advisee: 1 Current	**P.E. Registration:** Since 2011
Courses: Taught 11 different courses & developed 9	**Leadership:** Center Directors

PROFESSIONAL

2015 - present:	Assistant Professor, Civil & Environmental Engineering, Virginia Tech
2017 - present:	Director, Center for Applied Water Research and Innovation, Virginia Tech
2014 - 2015:	Director, Renewable Energy Program, The Ohio State University
2011 - 2014:	Visiting Assistant Professor, The Ohio State University
2009 - 2011:	Postdoctoral Research Associate, Oak Ridge National Laboratory
2007 - 2009:	Postdoctoral Research Associate, Washington State University
2006 - 2007:	Project Officer, Nanyang Technological University, Singapore

EDUCATION

- 2003 - 2007: Ph.D. degree in Environmental Engineering
  Nanyang Technological University, Singapore
  Dissertation: Insights into mechanism of aerobic granulation in sequencing batch reactor
  Advisors: Joo Hwa Tay and Yu Liu

- 1996 - 2000: Bachelor Degree in Environmental (Water Supply & Drainage) Engineering
  Harbin Institute of Technology, P.R.China

REGISTRATION AND INDUSTRY EXPERIEINCE

- Registered Professional Engineer since 2011, Montana State No. 20462
- Provided technical advice and research service to consultant firms such as Hazen and Sawyer, AECOM, Jacobs, Black & Vetch, CDM smith, HDR, SCS Engineering, as well as utilities such as Alexandria Renew Enterprises, Upper Occoquan Service Authority, Washington Suburban Sanitary Commission, DCWater, Arlington County, Loudoun Water, Hampton Roads Sanitation District, and Fairfax County.

RESEARCH INTERESTS

- ***Water/wastewater treatment***: aerobic granulation; thermal hydrolysis, anaerobic digestion, odor control, ozonation-biofiltration, membrane filtration.
- ***Nutrient removal/recovery***: anammox, fermentative bio-P, genetically modified plant, biochar
- ***Waste conversion to bioenergy/bioproducts***: valorization of food waste, animal manure, wastewater, and cellulosic biomass into ethanol, butanol, PHAs, etc.

PUBLICATIONS

# indicates graduate students, * indicates corresponding authors.

Peer Reviewed Journal papers

1. An Z.H.[#], Jin Q.[#], Zhang X.Y.[#], Huang H.B., **Wang Z.W.*** (2021) Anaerobic granulation of single culture *Clostridium beijerinckii,* Food and Bioproducts Processing (Accepted)

2. An Z.H. [#], Zhang X.Y. [#], Zheng Y., **Wang Z.W.*** (2021) Aerobic granulation of single culture protist, Process Biochemistry, 110, 163-167, DOI: https://doi.org/10.1016/j.procbio.2021.08.014
3. An Z.H. [#], Bot C.B., Angelotti B., Brooks M., **Wang Z.W.*** (2021) Leveraging feast and famine selection pressure during startup of continuous flow aerobic granulation systems to manage, Environmental Science: Water Research & Technology, 7, 1622-1629DOI: https://doi.org/10.1039/D1EW00314C
4. An Z.H. [#], Zhang X.Y. [#], Bot C.B., **Wang Z.W.*** (2021) Long-term stability of nitrifying granules in a membrane bioreactor without hydraulic selection pressure, Processes, 9(6), 1024, DOI: https://doi.org/10.3390/pr9061024
5. Luo H. [#], Zhang D. [#], Taylor M., Nguyen C., **Wang Z.W.*** (2021) Aeration in sludge holding tanks as an economical means for biosolids odor control – A case study, Water Environment Research, 2021;00:1–11, DOI: https://doi.org/10.1002/wer.1582
6. Wang S., Liu Q.X., Li J., **Wang Z.W.*** (2021) Methane in wastewater treatment plants: status, characteristics, and bioconversion feasibility by methane oxidizing bacteria for high value-added chemicals production and wastewater treatment, Water Research, 198, 117122, DOI: https://doi.org/10.1016/j.watres.2021.117122
7. Zhang D. [#], An Z.H. [#], Strawn M., Broderick T., Khunjar W., **Wang Z.W.*** (2021) Understanding the Formation of Recalcitrant Dissolved Organic Nitrogen as A Result of Thermal Hydrolysis Pretreatment and Anaerobic Digestion of Municipal Sludge, Environmental Science: Water Research & Technology, DOI: https://doi.org/10.1039/D0EW00944J
8. Sun Y.W. [#], Gomeiz A.T., Aken B.V., Angelotti B., Brooks M., **Wang Z.W.*** (2021) Dynamic response of aerobic granular sludge to feast and famine conditions in plug flow reactors fed with real domestic wastewater, Science of the Total Environment, 758, 144155, DOI: https://doi.org/10.1016/j.scitotenv.2020.144155
9. An Z.H. [#], Sun Y.W. [#], Angelotti B., Brooks M., **Wang Z.W.*** (2020) Densification dependence in continuous flow and sequential batch granulation systems on reactor feast-to-famine duration ratio, Journal of Water Process Engineering, 101800, DOI: https://doi.org/10.1016/j.jwpe.2020.101800
10. Zhang D., Santha H., Pallanschb K., Novaka J.T., **Wang Z.W.*** (2020) Repurposing pre-pasteurization as an in-situ thermal hydrolysis pretreatment process for enhancing anaerobic digestion of municipal sludge: A horizontal comparison between temperature-phased and standalone thermophilic or mesophilic anaerobic digestion, Environmental Science: Water Research & Technology, https://doi.org/10.1039/D0EW00633E
11. An Z.H. [#], Kent T.R. [#], Sun Y.W. [#], Charles B., **Wang Z.W.*** (2020) Free ammonia resistance of NOB developed in aerobic granular sludge cultivated in continuous upflow airlift reactors performing partial nitritation, Water Environment Research, DOI: https://doi.org/10.1002/wer.1440
12. Sun Y.W. [#], Angelotti B., Brooks M.A., and **Wang Z.W.*** (2020) Feast/Famine Ratio Determined Continuous Flow Aerobic Granulation, Science of the Total Environment, 141467. DOI: https://doi.org/10.1016/j.scitotenv.2020.141467
13. Jin Q., An Z. [#], Damle A., Poe N., Wu J., Wang H., **Wang Z.W.**, Huang H. (2020) High acetone-butanol-ethanol production from food waste by recombinant *Clostridium saccharoperbutylacetonicum* in batch and continuous immobilized-cell fermentation, ACS Sustainable Chemistry & Engineering, DOI: https://doi.org/10.1021/acssuschemeng.0c02529
14. Alfredo K., Lin J.[#], Islam A., and **Wang Z.W.** (2020) Impact of activated carbon-block point-of-use (POU) filters on chloraminated water quality, AWWA Water Science, 2(3) e1180. DOI: https://doi.org/10.1002/aws2.1180
15. Zhang D. [#], Strawn M., Broderick T., Novak J.T., **Wang Z.W.*** (2020) Effects of anaerobic digester solids retention time on odor emission and dewaterability of biosolids subjected to various shear *intensity*, polymer doses, and storage duration, Environmental Science: Water Research & Technology, 6, 1588-1596 DOI: https://doi.org/10.1039/D0EW00028K
16. Zhang D. [#], Sun Y.W. [#], Angelotti B., **Wang Z.W.*** (2020) Understanding the *dewaterability* of aerobic granular sludge formed in continuous flow bioreactors treating real domestic wastewater: is it really better than that of the activated sludge? Journal of Water Process Engineering, 36, 101253 DOI: https://doi.org/10.1016/j.jwpe.2020.101253
17. Zhang D. [#], Feng Y.M., Huang H.B., Khunjar W.O., **Wang Z.W.*** (2020) Recalcitrant Dissolved Organic Nitrogen Formation in Thermal Hydrolysis Pretreatment of Municipal Sludge, Environment International, 138, 105629, DOI: https://doi.org/10.1016/j.envint.2020.105629
18. Sun Y. [#], Vaidya R., Khunjar W.O., Rosenfeldt E., Selbes M., Wilson C., Bott C.B., Titcomb M., **Wang Z.W.*** (2019) Mathematical modeling of biologically active filtration (BAF) for potable water production applications, Water Research, 167, 115128

DOI: https://doi.org/10.1016/j.watres.2019.115128
19. Kent T.R.[#], Sun Y.W.[#], An Z.H.[#], Bott C.B., **Wang Z.W.*** (2019) Mechanistic Understanding of the NOB Suppression by free ammonia inhibition in continuous flow aerobic granulation bioreactors, Environment International, 131, 105005. DOI: Dhttps://doi.org/10.1016/j.envint.2019.105005
20. Yu D.J. , Sun Y.W.[#], Wang W.J., O'Keefe S.F., Neilson A.P., Feng H., **Wang Z.W.**, Huang H.B. (2019) Recovery of protein hydrolysates from brewer's spent grain using enzyme and ultrasonication, International Journal of Food Science and Technology DOI: https://doi.org/10.1111/ijfs.14314
21. Shah P.[#] and **Wang Z.W.*** (2019) Using digital polymerase chain reaction to characterize microbial communities in wetland mesocosm soils under different vegetation and seasonal nutrient loadings, Science of the Total Environment, 689, 269-277. DOI: https://doi.org/10.1016/j.scitotenv.2019.06.305
22. Sun Y.W.[#], Angelotti B., and **Wang Z.W.*** (2019) Continuous-flow aerobic granulation in plug-flow bioreactors fed with real domestic wastewater, Science of the Total Environment, 688, 762-770, DOI: https://doi.org/10.1016/j.scitotenv.2019.06.291
23. Zhang D.[#], Angelotti B., Schlosser E., and **Wang Z.W.*** (2019) Using cerium chloride to control soluble orthophosphate concentration and improve the dewaterability of sludge: Part II. A case study, Water Environment Research, DOI: https://doi.org/10.1002/wer.1142
24. Zhang D.[#], Angelotti B., Schlosser E., Novak J.T., and **Wang Z.W.*** (2019) Using cerium chloride to control soluble orthophosphate concentration and improve the dewaterability of sludge: Part I. mechanistic understanding, Water Environment Research, DOI: https://doi.org/10.1002/wer.1142
25. Li X.J.[#], Sun Y.W. [#], **Wang Z.W.***, He Z. (2019) Theoretical understanding of the optimum conditions for a mainstream granular nitritation-anammox reactor coupled with anaerobic pretreatment, Science of The Total Environment, 669 (15): 683-691, DOI: https://doi.org/10.1016/j.scitotenv.2019.03.117
26. Ma J., Xie S., Yu L., Zhen Y., Zhao Q., Frear C., Chen S., **Wang Z.W.** and Shi Z. (2019) pH shaped Kinetic characteristics and microbial community of food waste hydrolysis and acidification. Biochemical Engineering Journal, 146, 52-59 DOI: https://doi.org/10.1016/j.bej.2019.03.004
27. Sun Y.W.[#], Angelotti B., Brooks M., Dowbiggin B., Evans P.J., Devins B., and **Wang Z.W.*** (2018) A Pilot-Scale Investigation of Disinfection By-Product Precursor and Trace Organic Removal Mechanisms in Ozone-Biologically Activated Carbon Treatment for Potable Reuse, Chemosphere, 210:539-549, DOI: https://doi.org/10.1016/j.chemosphere.2018.06.162
28. Kent, T.R.[#], Bott, C.B., and **Wang Z.W.*** (2018) State of the Art of Aerobic Granulation in Continuous Flow Bioreactors, Biotechnology Advances, 36(4): 1139-1166 DOI: https://doi.org/10.1016/j.biotechadv.2018.03.015
29. Zhang D.[#], Strawn M., Novak J.T., and **Wang Z.W.*** (2018) Kinetic modeling of the effect of solids retention time on Methanethiol dynamics in Anaerobic Digestion, Water Research, 138, 301-311, DOI: https://doi.org/10.1016/j.watres.2018.03.035
30. Cui Y.W., Gong X.Y., Shi Y.P. and **Wang Z.W.** (2017) Salinity effect on production of PHA and EPS by *Haloferax mediterranei,* RSC Advances, 7(84): 53587-53595, DOI: https://doi.org/10.1039/C7RA09652F
31. Sun Y.W.[#], Zhang D.[#], and **Wang Z.W.*** (2017) The potential of using biological nitrogen removal technique for stormwater treatment, Ecological Engineering, 106: 482-495, DOI: https://doi.org/10.1016/j.ecoleng.2017.05.045
32. Luo S., **Wang Z.W.***, and He Z. (2017) Mathematical modeling of the dynamic behavior of an integrated photo-bioelectrochemical system for simultaneous wastewater treatment and bioenergy recovery, Energy, 124: 227-237, DOI: https://doi.org/10.1016/j.energy.2017.02.039
33. Cui Y.W., Zhang H.Y., Ji S.Y. and **Wang Z.W.** (2016) Kinetic Analysis of the Temperature Effect on Polyhydroxyalkanoate Production by Haloferax mediterranei in Synthetic Molasses Wastewater, Journal of Polymers and the Environment, 1-9, DOI: https://doi.org/10.1007/s10924-016-0807-2
34. Wang L.L., Li W.Z., Wang Z.J., **Wang Z.W.**, Sui C., Li Y. (2016) Effect of digestate application depth on soil nitrogen volatilization and vertical distribution, International Journal of Agricultural & Biological Engineering, 9: 101-107, , DOI: https://doi.org/10.3965/j.ijabe.20160905.2396
35. **Wang Z.W.***, Xu F.Q.[#], Manchala, K.R.[#], Sun Y.W.[#], and Li Y. (2016) Fractal-like kinetics of the solid-state anaerobic digestion, Waste Management, 53: 55-61, DOI: https://doi.org/10.1016/j.wasman.2016.04.019
36. Xu F.Q., Li Y.B. and **Wang Z.W.*** (2015) Mathematical modeling of solid-state anaerobic digestion, Progress in Energy and Combustion Science, 51: 49-66, DOI: https://doi.org/10.1016/j.pecs.2015.09.001
37. Xu F.Q., **Wang Z.W.***, and Li Y.B. (2016) Converting Solid Waste into Renewable Energy with Solid-State Anaerobic Digestion, Resource Magazine, 23(4): 4-5

38. Sheets J.P., Yang L.C., Ge X.M, **Wang Z.W.**, and Li Y.B., (2015) Beyond land application: Emerging technologies for the treatment and reuse of anaerobically digested agricultural and food waste, Waste Management, 44: 94-115, DOI: https://doi.org/10.1016/j.wasman.2015.07.037
39. Morrell-Falvey, J.L., Elkins, J.G. and **Wang, Z.W.***, (2015) Determination of the cellulase activity distribution in Clostridium thermocellum and *Caldicellulosiruptor obsidiansis* cultures using a fluorescent substrate. Journal of environmental sciences, 34: 212-218, DOI: https://doi.org/10.1016/j.jes.2015.03.009
40. Xu F.Q., **Wang Z.W.** and Li Y.B., (2014) Predicting the methane yield of lignocellulosic biomass in mesophilic solid-1state anaerobic digestion based on feedstock characteristics and process parameters, *Bioresource Technology*, 173:168–176, DOI: https://doi.org/10.1016/j.biortech.2014.09.090
41. Xu F.Q., **Wang Z.W.***, Tang L. and Li Y.B., (2014) A mass diffusion-based interpretation of the total solids effect on solid- state anaerobic digestion of cellulosic biomass, *Bioresource Technology*, 167:178-185, DOI: https://doi.org/10.1016/j.biortech.2014.05.114
42. Li X.K., Wang S.T., **Wang Z.W.**, and Ma J. (2013) In-depth characterization of secondary effluent from a conventional municipal wastewater treatment plant in northern China for tertiary treatment, *Water Science and* Technology, 69(7):1482-1488, DOI: https://doi.org/10.2166/wst.2014.040
43. **Wang Z.W.*** and Li Y.B., (2013) A theoretical derivation of the Contois equation for kinetic modeling of microbial growth on insoluble substrate, *Biochemical Engineering Journal,* 82(15) 134-138, DOI: https://doi.org/10.1016/j.bej.2013.11.002
44. **Wang Z.W.***, Lee S.H., Elkins J.G., Li Y.C., Hamilton-Brehm S., Morrell-Falvey, J.L. (2013) Continuous live cell imaging of cellulose attachment by microbes under anaerobic and thermophilic conditions using confocal microscopy, *Journal of Environmental* Sciences, 25(5): 1-8, DOI: https://doi.org/10.1016/S1001-0742(12)60104-1
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46. **Wang Z.W.**, Elkins J.G., Morrell-Falvey J.L. (2011) Spatial and temporal dynamics of cellulose degradation and biofilm formation by *Caldicellulosiruptor obsidiansis* and *Clostridium thermocellum, AMB Express* 1:30-40, DOI: https://doi.org/10.1186/2191-0855-1-30
47. Borole A.P., Reguera G., Ringeisen B., **Wang Z.W.**, Feng Y.J. and Kim, B.H. (2011) Electro-Active Biofilms: Current Status and Future Research Needs, *Energy and Environmental Science* 4: 4813-4834, DOI: https://doi.org/10.1039/C1EE02511B
48. **Wang Z.W**., Hamilton-Brehm S.D., Elkins J.G., Lochner A., Morrell-Falvey J.L. (2010) Mathematical modeling of hydrolysate diffusion and utilization in cellulolytic biofilms of the extreme thermophile *Caldicellulosiruptor obsidiansis*, *Bioresource Technology* 102(3):3155-3162, DOI: https://doi.org/10.1016/j.biortech.2010.10.104
49. **Wang Z.W.**, Ma J.W. and Chen S.L. (2010) Bipolar effects of settling time on active biomass retention in anaerobic sequencing batch reactors digesting flushed dairy manure, *Bioresource technology* 102(2):697-702, DOI: https://doi.org/10.1016/j.biortech.2010.08.045
50. Frear C., **Wang Z.W.**, Li C.L. and Chen S.L. (2010) Biogas potential and microbial population distributions in flushed dairy manure and implications on anaerobic digestion technology, *Journal of Chemical Technology & Biotechnology* 86(1):145–152, DOI: https://doi.org/10.1002/jctb.2484
51. **Wang Z.W.**, Xie S. Liu Y. and Hung Y.T. (2009) Resistance of Aerobic Granules to Cr^{3+}-Containing Wastewater, *International Journal of Environmental Engineering Science* 1(2):169-178
52. **Wang Z.W.** and Chen S.L. (2009) Potential of biofilm-based biofuel production, *Applied Microbiology and Biotechnology* 83(1):1-18, DOI: https://doi.org/10.1007/s00253-009-1940-9
53. Li Y., Liu Y. and **Wang Z.W.** (2009) Stoichiometric analysis of dissolved organic carbon flux into storage and growth in aerobic granules culture. *Biotechnology Journal* 4(2): 238-246, DOI: https://doi.org/10.1002/biot.200800191
54. **Wang Z.W.**, Liu Y. Tay J.H. (2007) Biodegradability of extracellular polymeric substances produced by aerobic granules. *Applied* Microbiology *and Biotechnology* 74(2): 462-466, DOI: https://doi.org/10.1007/s00253-006-0686-x
55. **Wang Z.W.** and Liu Y. (2007) Mechanism of calcium accumulation in acetate-fed aerobic granule. *Applied Microbiology and Biotechnology* 74(2): 467-473, DOI: https://doi.org/10.1007/s00253-006-0540-1
56. **Wang Z.W.**, Li Y., Zhou J.Q. and Liu Y. (2006) The influence of short-term starvation on aerobic granules. *Process Biochemistry* 41: 2373-2378, DOI: https://doi.org/10.1016/j.procbio.2006.06.009
57. **Wang Z.W.**, Liu Y. and Tay J.H. (2006) The role of SBR mixed liquor volume exchange ratio in aerobic granulation. *Chemosphere* 62: 767-771, DOI: https://doi.org/10.1016/j.chemosphere.2005.04.081

58. **Wang Z.W.**, Liu Y. and Tay J.H. (2005) Distribution of EPS and cell surface hydrophobicity in aerobic granules *Applied Microbiology and Biotechnology* 69(4): 469-473, DOI: https://doi.org/10.1007/s00253-005-1991-5
59. Liu Y. and **Wang Z.W.** (2008) Uncertainty of preset-order kinetic equations in description of biosorption data. *Bioresource Technology* 99(8): 3309-3312, DOI: https://doi.org/10.1016/j.biortech.2007.06.026
60. Liu Y., **Wang Z.W.**, Qin L., Liu Y.Q. and Tay J.H. (2005) Selection pressure-driven aerobic granulation in a sequencing batch reactor. *Applied Microbiology and Biotechnology* 67(1): 26-32, DOI: https://doi.org/10.1007/s00253-004-1820-2
61. Liu Y., **Wang Z.W.** and Tay J.H. (2005) A unified theory for upscaling aerobic granular sludge sequencing batch reactors. *Biotechnology Advances* 23(5): 335-344, DOI: https://doi.org/10.1016/j.biotechadv.2005.04.001
62. Liu Y., **Wang Z.W.**, Liu Y.Q., Qin L. and Tay J.H. (2005) A generalized model for settling velocity of aerobic granular sludge. *Biotechnology Progress* 21(2): 621-626, DOI: https://doi.org/10.1021/bp049674u
63. Liu Y., Liu Y.Q., **Wang Z.W.**, Yang S.F. and Tay J.H. (2005) Influence of substrate surface loading on the kinetic behavior of aerobic granules. *Applied Microbiology and Biotechnology* 67(4): 484-488, DOI: https://doi.org/10.1007/s00253-004-1785-1
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Book Chapters

1. Wang S., Zhaohui An[#], **Wang Z.W.** (2020) Bioconversion of methane to chemicals and fuels by methane oxidizing bacteria. In: "Advances in Bioenergy, volume 5", Elsevier Inc., Cambridge, MA. DOI: https://doi.org/10.1016/bs.aibe.2020.04.005
2. Manchala K.R.[#], Sun Y.[#], Zhang D.[#] and **Wang Z.W.** (2016) Anaerobic Digestion Modeling. In: "Advance in Bioenergy 2", Elsevier Inc., Cambridge, MA. DOI: https://doi.org/10.1016/bs.aibe.2017.01.001
3. **Wang Z.W.** and Liu Y. (2011) Dissolved oxygen biological process for sludge reduction. In: "Biological sludge minimization and biomaterials/bioenergy recovery technologies", John Wiley & Sons, Inc., NY. DOI: https://doi.org/10.1002/9781118309643.ch7
4. Shen L., **Wang Z.W.**, Fang S.Q. and Liu Y., (2008) Bisorption isotherms and thermodynamics. In: "Fundamentals and applications of biosorption isotherms, kinetics and thermodynamics", Nova Science Publishers, NY.
5. Shen L., Liu Y and **Wang Z.W.**, (2008) Biosorption kinetics. In: "Fundamentals and applications of biosorption isotherms, kinetics and thermodynamics", Nova Science Publishers, NY.
6. **Wang Z.W.** and Liu Y. (2007) Aerobic granulation at different SBR cycle times. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch3
7. **Wang Z.W.** and Liu Y. (2007) Roles of SBR volume exchange ratio and discharge time in aerobic granulation. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch5
8. **Wang Z.W.** and Liu Y. (2007) Internal structure of aerobic granule. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch11
9. **Wang Z.W.** and Liu Y. (2007) Biodegradability of extracellular polymeric substances produced by aerobic granules. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch12
10. **Wang Z.W.**, Li Y. and Liu Y. (2007) Calcium accumulation in acetate-fed aerobic granule. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch13
11. Li Y., **Wang Z.W.** and Liu Y. (2007) Diffusion of substrate and oxygen in aerobic granule. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch8
12. Liu Y., **Wang Z.W.** (2007) Selection pressure theory for aerobic granulation in sequencing batch reactor. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch6

13. Liu Y., **Wang Z.W.** (2007) Essential roles of cell hydrophobicity in aerobic granulation. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch9
14. Liu Y., **Wang Z.W.** (2007) Essential roles of extracellular polymeric substances in aerobic granulation. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch10
15. Liu Y., **Wang Z.W.** and Liu Q.S (2007) Influence of starvation on aerobic granulation. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch14
16. Liu Y., **Wang Z.W.** and Liu Q.S (2007) Improved stability of aerobic granules by selecting slow-growing bacteria. In: "Wastewater purification: aerobic granulation in sequencing batch reactor", Taylor & Francis Group LLC - CRC Press, Florida. DOI: https://doi.org/10.1201/9781420053685.ch16
17. **Wang Z.W.** and Liu Y. (2007) Modeling of heavy metal biosorption by aerobic granules. In: "Focus on Colloid and Surface Research", ed. Columbus F., Nova Science Publishers, Inc., New York

Invited Talk

1. **Wang Z.W.** (2021) Recalcitrant dissolved organic nitrogen formation as a result of thermal hydrolysis pretreatment and anaerobic digestion of municipal sludge, IDAEA in the 5th International Symposium for Persistent, Bioaccumulating and Toxic Substances (IJRC-PTS 2021), July 27
2. **Wang Z.W.** (2021) Formation and turnover of recalcitrant dissolved organic nitrogen in thermal hydrolysis pretreatment and mesophilic anaerobic digestion of municipal sludge, Virginia Water Environment Association (VWEA), May 27
3. **Wang Z.W.** (2021) Continuous flow aerobic granulation for wastewater treatment, Department of Chemical and Environmental Engineering, University of Cincinnati, January 24
4. **Wang Z.W.** (2020) Aerobic granulation in continuous flow reactors for wastewater treatment, invited by Environmental Biotechnology Network, United Kingdom, November 3
5. **Wang Z.W.** (2020) Aerobic granules in continuous flow reactors for upgrading wastewater treatment capacities, Invited by Beijing University of Technology, September 25
6. **Wang Z.W.** (2018) The process intensification and consolidation for metropolitan wastewater reclamation plants, Department of Chemistry and Biochemistry, George Mason University, September 14

Conference Oral Presentation

1. Iboleon R.[#], Zhang D.[#], An Z.[#], Strawn M., Broderick T., Khunjar W., **Wang Z.W.*** (2021) Fate and Formation of Recalcitrate Dissolved Organic Nitrogen During Thermal Hydrolysis and Anaerobic Digestion of Municipal Biosolids, WaterJAM 2021, Virginia Beach, VA, September 13-16
2. Zhang X.[#], An Z.[#], Bott C.B., **Wang Z.W.*** (2021) Long-Term Stabilization of Nitrifying Granular Sludge Without Hydraulic Selection Pressure, WaterJAM 2021, Virginia Beach, VA, September 13-16
3. An Z.[#], Bott C.B., Angelotti B., Brooks M., **Wang Z.W.*** (2021) Application of a continuous upflow selector for enabling continuous flow aerobic granulation in real domestic wastewater, WaterJAM 2021, Virginia Beach, VA, September 13-16
4. Luo H.[#], Zhang D.[#], Taylor M., Nguyen C., Quansah S., **Wang Z.W.*** (2021) Identifying the Source, Cause, and Solutions for Biosolids Odor Control at a Maryland Water Resource Recovery Facility, WEF Residuals and Biosolids 2021, Virtual, May 11-13
5. An Z.H.[#], Angelotti B., Bott C.B., **Wang Z.W.*** (2020) The feast-to-famine duration ratio dependent aerobic granulation in continuous flow and sequential batch reactors. WaterJAM 2020, Virtual, September 14-October 2
6. Luo H.[#], Zhang D.[#], Taylor M., Nguyen C., Quansah S., **Wang Z.W.*** (2020) Identification and Controlling the Biosolids Odor Emission in Wastewater Treatment Facilities. WaterJAM 2020, Virtual, September 14-October 2
7. Zhang D.[#], Broderick T., Strawn M., Santha H., **Wang Z.W.*** (2019) A Comparison Between Temperature-Phased Anaerobic Digestion and Thermal Hydrolysis as A Pretreatment Method for Enhanced Anaerobic Digestion of Biosolids, WFETEC 2019, Chicago, September 23-25
8. Zhang D.[#], Angelotti B., Schlosser E., **Wang Z.W.*** (2019) Orthophosphate Control & Sludge Dewaterability Improvement by Using Cerium Chloride, WFETEC 2019, Chicago, September 23-25

9. An Z.H.[#], Kent T.R.[#], Bott C., **Wang Z.W.*** (2019) Resistance of NOB to free ammonia inhibition developed over long-term acclimation in continuous flow aerobic granulation reactor performing partial nitritation, WFETEC 2019, Chicago, September 23-25
10. Sun Y.W.[#], Vaidya R., Khunjar W., Rosenfeldt E., Selbes M., Wilson C., Bott C.B., **Wang Z.W.*** (2019) Model-guided strategies for headloss control in the biological activated carbon filters for potable water reuse, WFETEC 2019, Chicago, September 23-25
11. Kent T.R.[#], Sun Y.W.[#], An Z.H.[#], Bott C., **Wang Z.W.*** (2019) The Impact of Free Ammonia Inhibition and Granule Size on the suppression of Nitrite Oxidizing Bacteria in Continuous Flow Bioreactors, WFETEC 2019, Chicago, September 23-25
12. Sun Y.W.[#], Angelotti B., Brooks M., **Wang Z.W.*** (2019) Continuous flow aerobic granulation in real municipal wastewater: a pilot-scale evaluation of the effects of feast/famine and sludge settling velocity selection, WFETEC 2019, Chicago, September 23-25
13. Zhang D.[#], Angelotti B., Schlosser E., **Wang Z.W.*** (2019) Dissolved phosphate control & sludge dewaterability improvement by using cerium chloride, WaterJam 2019, Virginia Beach, Virginia, September 9-12
14. Kent T.R.[#], Sun Y.W.[#], An Z.H.[#], Bott C., **Wang Z.W.*** (2019) The impact of granule size on the inhibition of nitrite oxidizing bacteria by free ammonia in continuous flow bioreactors treating, WaterJam 2019, Virginia Beach, Virginia, September 9-12
15. An Z.H.[#], Kent T.R.[#], Bott C., **Wang Z.W.*** (2019) Free ammonia resistance of NOB developed in continuous flow aerobic granulation reactor performing partial nitritation, WaterJam 2019, Virginia Beach, Virginia, September 9-12
16. Sun Y.W.[#], Vaidya R., Khunjar W., Rosenfeldt E., Selbes M., Wilson C., Bott C.B., **Wang Z.W.*** (2019) Mathematical modeling of deep-bed biofiltration to describe contaminant control and headloss development, ASABE 2019, Boston, Massachusetts, July 8-10
17. Sun Y.W.[#], Angelotti, B., Brooks M., **Wang Z.W.*** (2019) Pilot-scale evaluation of the effects of settling velocity-based selection and feast/famine conditions on continuous flow aerobic granulation, ASABE 2019, Boston, Massachusetts, July 8-10
18. Kent T.R.[#], Sun Y.W.[#], An Z.H.[#], Bott C.B**., Wang Z.W.*** (2019) Free Ammonia Inhibition as a Means of Suppressing Nitrite Oxidizing Bacteria in Differently Sized Granules Treating Agricultural Wastewater, ASABE 2019, Boston, Massachusetts, July 8-10
19. An Z.H.[#], Huang H.B., Shuai D.M., **Wang Z.W.*** (2019) Granulation of Clostridium beijerinckii P260 in continuous flow reactors converting food waste to butanol simultaneously recovered through pervaporation membrane, ASABE 2019, Boston, Massachusetts, July 8-10
20. Zhang D.[#], Broderick T., Strawn M., Santha H., **Wang Z.W.*** (2019) Process Intensification of Anaerobic Digestion through Temperature Phased Anaerobic Digestion and Thermal Hydrolysis Pretreatment, ASABE 2019, Boston, Massachusetts, July 8-10
21. An Z.H.[#], Kent T.R.[#], Bott, C.B., **Wang Z.W.*** (2019) Stabilization of full or partial nitrification aerobic granules in continuous flow reactors without hydraulic selection pressure, ASABE 2019, Boston, Massachusetts, July 8-10
22. An Z.H.[#], Kent T.R.[#], Bott C.B., **Wang Z.W.*** (2019) Free ammonia resistance of NOB in continuous flow air-lift reactor performing partial nitritation, ASABE 2019, Boston, Massachusetts, July 8-10
23. Zhang D.[#], Khunjar W., **Wang Z.W.*** (2019) The effect of pH and ferric ion on recalcitrant dissolved organic nitrogen production from the thermal hydrolysis of biosolids, ASABE 2019, Boston, Massachusetts, July 8-10
24. Zhang D.[#]., Angelotti B., Schlosser E., and **Wang Z.W.*** (2019) Using Cerium Chloride to Control Soluble Orthophosphate Concentration and Improve the Dewaterability of Sludge, WEF/IWA Residuals and Biosolids Conference 2019, Fort Lauderdale, Florida, May 7-10
25. Zhang D.[#] and **Wang Z.W.*** (2018) Using cerium salt as an economical precipitant for complete phosphorus recovery and effective dewatering of anaerobic digestate, ASABE 2018, Detroit, Michigan, July 29- Aug 1.
26. Sun Y.W.[#] and **Wang Z.W.*** (2018) Fast-growing can be taken as an alternative strategy to fast-settling by microorganism to survive extreme selection pressures in aerobic granulation reactors, ASABE 2018, Detroit, Michigan, July 29- Aug 1.
27. Zhang D.[#] Novak J, and **Wang Z.W.*** Manipulating methanethiol formation and degradation rates for odor emission control, doi:10.13031/aim.201701221, 2017 ASABE, Spokane, Washington, July 16-July 19
28. Sun Y.W.[#] and **Wang Z.W.*** (2017) Biological nitrogen removal of stormwater, ASABE 2017, Spokane, Washington, July 16-July 19

29. Xu F.Q., **Wang Z.W.**, Li Y., (2014) Mathematical modeling of solid-state anaerobic digestion system for bioenergy production and waste management. ASABE 2014, Montreal, Quebec Canada July 13 – July 16.
30. Manchala K.R.[#], Novak J.T., and **Wang Z.W.*** (2016) Impact of surfactant addition on anaerobic bioreactor landfill performance. WEF/IWA Residuals and Biosolids Conference 2016, Orlando, Florida July 17 – July 20

Conference poster presentation

1. Luo H.[#], Freed C.[#], Gillaspy G., **Wang Z.W.*** (2021) Phosphorus immobilization in biochar produced from plants genetically engineered for luxury phosphorus uptake, WaterJAM 2021, Virginia Beach, VA, September 13-16
2. Wang J.F.[#], Sun Y.W.[#], Khunjar W., Pace G., Pathak A., McGrath M., **Wang Z.W.*** (2021) Low concentration nitrogen polishing via the synergy between partial denitrification and anaerobic ammonia oxidation in moving bed biofilm reactors under real-time feed forward control at Noman M. Cole Jr., Pollution Control Plant, WaterJAM 2021, Virginia Beach, VA, September 13-16
3. Zhang X.Y.[#], Shi J., Zhang W., **Wang Z.W.*** (2021) Volatile Fatty Acid Recovery via Deep Eutectic Solvent in Membrane Contactor System, WaterJAM 2021, Virginia Beach, VA, September 13-16
4. An Z.[#], Bott C.B., Angelotti B., Brooks M., **Wang Z.W.*** (2021) Applying feast and famine selection pressure in continuous flow aerobic granulation systems to manage treatment performance during startup, WaterJAM 2021, Virginia Beach, VA, September 13-16 (**1st place award**)
5. Iboleon R.[#], Zhang D.[#], An Z.[#], Strawn M., Broderick T., Khunjar W., Sveuma K., Schmitz B., **Wang Z.W.*** (2021) Understanding the Thermal Hydrolysis Effect on Recalcitrant Nitrogen Formation With and Without Anaerobic Digestion of Municipal Biosolids, Virginia Beach, VA, September 13-16
6. Iboleon I[#]., Zhang. D.[#], An Z.H.[#], Strawn M., Broderickc T., Khunjard W., **Wang Z.W.*** (2021) Recalcitrant Dissolved Organic Nitrogen Formation in Thermal Hydrolysis and Anaerobic Digestion of Municipal Sludge, CSAWWA'S 2021 second annual virtual poster competition (**2nd place award**)
7. Sun Y.W.[#], Vaidya R.[#], Khunjar W.O., Rosenfeldt E.J., Selbes M., Wilson C., Bott C.B., **Wang Z.W.*** (2019) Mathematical modeling of biologically active filtration (BAF) for potable water production applications, WaterJam 2019, Virginia Beach, Virginia, September 9-12 (1st place award in water poster competition)
8. Sun Y.W.[#], Angelotti B., **Wang Z.W.*** (2019) Continuous-flow aerobic granulation in. plug-flow bioreactors fed with real domestic wastewater, WaterJam 2019, Virginia Beach, Virginia, September 9-12
9. An Z.H.[#], Kent T.R.[#], Bott, C.B., **Wang Z.W.*** (2019) Stabilization of full or partial nitrification aerobic granules in continuous flow reactors without hydraulic selection pressure, ASABE 2019, Boston, Massachusetts, July 8-10
10. An Z.H.[#], Kent T.R.[#], Bott C.B., **Wang Z.W.*** (2019) Free ammonia resistance of NOB in continuous flow air-lift reactor performing partial nitritation, ASABE 2019, Boston, Massachusetts, July 8-10
11. Zhang D.[#], Khunjar W., **Wang Z.W.*** (2019) The effect of pH and ferric ion on recalcitrant dissolved organic nitrogen production from the thermal hydrolysis of biosolids, ASABE 2019, Boston, Massachusetts, July 8-10
12. Zhang D.[#], Angelotti B., Schlosser E., and **Wang Z.W.*** (2019) Orthophosphate Control & Sludge Dewaterability Improvement by Using Cerium Chloride, AEESP 2019, Tempe, Arizona, May 14-16
13. An Z.H.[#], Kent T.R.[#], Bott C.B., and Wang Z.W. (2019) Free ammonia resistance developed by NOB in continuous flow aerobic granulation reactor performing partial nitritation, AEESP 2019, Tempe, Arizona, May 14-16
14. Sun Y.W.[#], Angelotti B., and **Wang Z.W.*** (2019) Pilot-scale investigation of the effects of feast/famine conditions and sludge settling velocity-based selection on continuous flow aerobic granulation in real municipal wastewater, AEESP 2019, Tempe, Arizona, May 14-16
15. Kent T.R.[#], Sun Y.W.[#], Bott C.B., and **Wang Z.W.*** (2019) Free Ammonia Inhibition as a Means of Suppressing Nitrite Oxidizing Bacteria in Granular Sludge for Continuous Flow Bioreactors, AEESP 2019, Tempe, Arizona, May 14-16
16. Zhang D.[#] and **Wang Z.W.*** (2018) Mathematical modeling of the effect of shear intensity on odor generation from dewatered anaerobically digested biosolids, ASABE 2018, Detroit, Michigan, July 29- Aug
17. Sun Y.W.[#], Kent T.R.[#], and **Wang Z.W.*** (2018) Theoretical understanding of the effectiveness of free ammonia inhibition of nitrite oxidizing bacteria in granular sludge, ASABE 2018, Detroit, Michigan, July 29- Aug 1.
18. Sun Y.W.[#], Li X.J.[#], **Wang Z.W.**, and He Z. (2018) Theoretical understanding of an integrated system using psychrophilic anaerobic biofilms to optimize COD/N ratio for low energy nitrogen removal through nitritation-anammox processes in biogranules, ASABE 2018, Detroit, Michigan, July 29- Aug 1.

19. Zhang D.[#], Strawn M., **Wang Z.W.*** (2017) Mathematical Modeling of Methanethiol Formation and Degradation in Anaerobic Chemostats, WaterJam 2017, Hampton, Virginia, September 11-14
20. Zhang D. [#], Novak J., **Wang Z.W.*** (2017) Manipulating Methanethiol Formation and Utilization for Odor Mitigation, ASABE 2017, Spokane, Washington, July 16-19
21. Sun Y.W.[#], Angelotti R.W, Evans P., Brooks M., **Wang Z.W.*** (2017) Pilot-scale investigation of ozone-enhanced biofiltration using spent and regenerated granular activated carbon media for potable reuse, AEESP 2017, Ann Arbor, Michigan.
22. Zhang D. [#], Novak J. **Wang Z.W.*** (2017) Manipulating Methanethiol Formation and Utilization for Odor Mitigation, AEESP 2017, Ann Arbor, Michigan.
23. Sun Y.W.[#] and Wang Z.W. (2017) Biological nitrogen removal potential of stormwater, AEESP 2017, Ann Arbor, Michigan.
24. Xu F. [#], **Wang Z.W.,** Li Y., (2014) Modeling solid state anaerobic digestion for process optimization and mechanism study. ASABE IBE 19th Annual Conference, Lexington, Kentucky
25. **Wang Z.W.**, Edwards, A.N., Lee, S.H., Hamilton-Brehm S.D., Elkins J.G., Morrell-Falvey, J.L. (2011) Determinants of cellulolytic bacterial attachment on plant cell walls. In: BESC Retreat, Chattanooga, TN, USA
26. **Wang Z.W.**, Hamilton-Brehm S., Elkins J.G., Morrell-Falvey J.L. (2010) Imaging and modeling of cellulolytic Biofilm. In: BESC Retreat, Ashville, NC, USA
27. **Wang Z.W.**, Hamilton-Brehm S., Elkins J.G., Morrell-Falvey J.L. (2010) Cellulolytic Biofilm: Imaging, Modeling and Kinetic Implications. American Society for Microbiology (ASM) 110th General Meeting, San Diego, CA
28. Hamilton-Brehm S., **Wang Z.W.**, Morrell-Falvey J.L. and Elkins J.G. (2010) Characterization of cellulose hydrolysis and ethanol production in the extreme thermophile Caldicellulosiruptor obsidiansis, 32nd Symposium on biotechnology for fuels and chemicals poster, Clearwater beach, FL.
29. **Wang Z.W.**, Hamilton-Brehm S., Morrell-Falvey J.L., Mielenz J., Keller M., and Elkins J.G. (2010) Characterizing cellulose hydrolysis and ethanol production by the extremely thermophilic cellulolytic organism, 2010 Genome to Science conference poster, Washington D.C.
30. Hamilton-Brhm S.D., Vishnivetskaya T., **Wang Z.W.**, Mosher J., Podar M, Morrell-Falvey J., Allman S., Carroll S., Keller M., and Elkins J.G. (2009) Thermophilic cellulose degrading organisms from Obsidian Pool Yellowstone National Park In: BESC Retreat, Ashville, NC, USA
31. **Wang Z.W.**, Li Y., Shen L. and Liu Yu (2008) Kinetics and energetics behaviors of aerobic granule In: IWA Biofilm Technologies Conference, Singapore

Technical Reports

1. Luo H.[#] and **Wang Z.W.*** (2020) Turning phosphorus pollution from digested dairy manure into a marketable product by using fungi, Submitted to Virginia Department of Agriculture and Consumer Services, March 12
2. Luo H.[#], Zhang D., and **Wang Z.W.*** (2020) Identification of the Source, Cause, and Solution of the Biosolids Odor Emission in Western Branch Water Resource Recovery Facility, Submitted to Washington Suburban Sanitary Commission, March 4
3. Zhang D.[#] and **Wang Z.W.*** (2020) Effect of temperature-phased anaerobic digestion and thermal hydrolysis pretreatment on the process intensification of anaerobic digestion, Submitted to Arlington County Water Pollution Control Plant and and Alexandria Renew Enterprises, January 10.
4. Zhang D.[#] and **Wang Z.W.*** (2018) Effect of cerium chloride addition on sludge dewatering through centrifugation, Submitted to Upper Occoquan Service Authority, March 1.
5. Zhang D.[#] and **Wang Z.W.*** (2017) Anaerobic Digestion and Sludge Dewatering Studies for Arlington County Water Pollution Control Plant, Submitted to Arlington County, August 4.

Patents

1. Utilizing slow-releasing fertilizer processed from phosphate-hyperaccumulating plants to remediate phosphate pollution. Serial No.:63/106,408; Filing Date: October 28, 2020; VTIP Ref.: 20-119; T|H Ref.:222204-8105
2. Heterologous ddp1 expressing plants and uses thereof. Serial No.: PCT/US2021/033799; Filing Date: May 22, 2021; VTIP Ref. 20-029 & 20-119 Ref. VTIP-0260WP

TEACHING

Courses currently taught at Virginia Tech:

CEE 3104 Introduction to Environmental Engineering (Asynchronized online course, 3-credit, Spring and Summer 2018-2021)

CEE 4174 Solid and Hazardous Waste Management (Synchronized online course, 3-credit, Fall 2015-2021)
CEE 5100 Stormwater Treatment (Synchronized online course, 3-credit, Spring 2016, 2017, 2019), self-developed
CEE 5984 Biofilms Science and Technology (Synchronized online course, 3-credit, Spring 2017, 2018), self-developed

Courses previously taught at The Ohio State University:
2010T Introduction to Renewable Energy (3-credit, Fall 2012, 2013, 2014), self-developed
2020T Bioconversion Systems (3-credit, Spring 2012, 2013, 2014, 2015), self-developed
2030T Biomass Feedstock Evaluation (3-credit, Fall 2012, 2013, 2014), self-developed
2040T Project planning, Development, and Operation (3-credit, Spring 2012, 2013, 2014, 2015), self-developed
2189T Renewable Energy Practicum (2-credit, 2012, 2013, 2014, 2015), self-developed
2191T Renewable Energy Internship (2-credit, Summer 2012, 2013, 2014), self-developed
1201T Exploring Renewable Energy (0.5-credit, Fall 2012, 2013, 2014), self-developed

Postdoctoral Research Associate
Current:
1. Yuepeng Sun (Summer 2021 – present)

Chair of Ph.D. Dissertation
Current:
1. Xueyao Zhang (Spring 2021 - present)
2. Karthik Reddy Manchala (Spring 2016 – present)
3. Alexandria Gagnon (Fall 2016 – present)
4. Zhaohui An (Fall 2018 – present)
5. Hao Luo (Spring 2019 – present)
6. Jiefu Wang (Fall 2019 – present)
7. Jeffrey Nicholson (Fall 2014 – present)

Completed:
1. Yewei Sun (Fall 2016 – Spring 2020), currently as a Scientist in Hazen & Sawyer. Dissertation: Advanced Biofilm and Aerobic Granulation Technologies for Water and Wastewater Treatment
2. Dian Zhang (Spring 2017 – Spring 2020), currently as a Civil Engineer in Stantec
   Dissertation: Effects of process intensification techniques on biosolids management

Chair of M.S. Theses/non-Thesis
Current
1. Tyler Kisling (Fall 2020 – present), Thesis
2. Rafael Iboleon (Fall 2020 – present), Thesis
3. Kyle Malin (Fall 2019 – present), Thesis
4. Alexander Panaccione (Fall 2020 – present), Thesis
5. Adam Taylor (Fall 2016 – present), non-Thesis

Completed
1. Parita Raj Shah (Fall 2016 - Fall 2018), currently as a Civil Engineer in SCS Engineers
   Thesis: Evaluation of Digital PCR (dPCR) for the Quantification of Soil Nitrogen Turnover Bacteria in Wetland Mesocosms in Response to Season, Fertilization, and Plant Species Richness
2. Timothy Robert Kent (Fall 2016 - Fall 2018), currently as a Civil Engineer in AECOM
   Thesis: Mechanistic Understanding of the NOB Suppression by Free Ammonia Inhibition in Continuous Flow Aerobic Granulation Bioreactors (**Received 2019 AEESP thesis award**)
3. Jie Lin (Fall 2016 - Spring 2018), currently as a MS in Operations Research, Columbia University
   Thesis: Statistical evaluation of the factors causing microbial growth in point-of-use filters
4. Yewei Sun (Fall 2015 - Summer 2016), non-Thesis
5. Matt Wisniewski (Fall 2016 – April 2020), non-Thesis

Members of PhD and MS degree committees at Virginia Tech

1. Megan Bachmann, M.S. Thesis, Chair: Amy Pruden - ongoing
2. Mah Joshua, Ph.D. Dissertation, Chair: Adil Godrej – ongoing
3. Ali Nemati, M.S. non-Thesis, Chair: Adil Godrej – ongoing
4. Mancell-egala Abdul, Ph.D. Dissertation, Chair: Adil Godrej - completed
5. Ramola Vaidya, Ph.D. Dissertation, Chair: Amy Pruden - completed
6. Stephanie Klaus, Ph.D. Dissertation, Chair: Amy Pruden - completed
7. Jain Akshay, M.S. Thesis, Chair: Zhen He - completed
8. Syeed Md Iskander, Ph.D. Dissertation, Chair: Zhen He - completed
9. Pranav Sai Shankar Sampara, M.S. Thesis, Chair: Zhen He - completed
10. Shiqiang Zou, Ph.D. Dissertation, Chair: Zhen He - completed
11. Erin Lynn Ress, M.S. non-Thesis, Chair: Adil Godrej - completed
12. Ke Li, M.S. Thesis, Chair: Zhen He - completed
13. Lu Guan, M.S. Thesis, Chair: Zhen He - completed
14. Shuai Luo, Ph.D. Dissertation, Chair: Zhen He - completed
15. Pengyu Yan, M.S. Thesis, Chair: Zhen He - completed
16. Jing Wang, M.S. Thesis, Chair: Zhen He - completed
17. Xiaojin Li, Ph.D. Dissertation, Chair: Zhen He - completed
18. Zhenyu Wu, M.S. Thesis, Chair: Zhen He - completed
19. Victory Oghenerabome Odize, Ph.D. Dissertation, Chair: Adil Godrej - completed
20. Jian Li, Ph.D. Dissertation, Chair: Zhen He - completed
21. Matthew Stephen Ferby, M.S. Thesis, Chair: Zhen He - completed
22. Bin Xu, Ph.D. Thesis, Chair: Zhen He - completed
23. Zixuan Wang, M.S. Thesis, Chair: Zhen He - completed
24. Tue Phung, M.S. non-Thesis, Chair: Adil Godrej - completed
25. Nevetha Ramesh, M.S. non-Thesis, Chair: Zhen He - completed
26. Michael Anthony Gallo, M.S. non-Thesis, Chair: Adil Godrej - completed
27. Jay Sim, M.S. non-Thesis, Chair: Bill Knocke - completed
28. Dipika Dinesh, M.S. non-Thesis, Chair: Gabriel Isaacman-VanWertz - completed
29. Danny Hermes, M.S. non-Thesis, Chair: Adil Godrej - completed
30. Dylan Cowell, M.S. non-Thesis, Chair: Zhen He - completed
31. Divyang Pavan Baldota, M.S. non-Thesis, Chair: Zhen He - completed
32. Kyung Sun Chung, M.S. non-Thesis, Chair: Zhen He - completed
33. Yi Shuang, M.S. non-Thesis, Chair: Zhen He - completed
34. Yu Dong, M.S. non-Thesis, Chair: Zhen He - completed
35. Khantil Buch, M.S. non-Thesis, Chair: Linsey Marr - completed
36. Tolulope Adekanye, M.S. non-Thesis,, Chair: Zhen He - completed
37. Justin Macmanus, M.S. Thesis, Chair: Amy Pruden - competed
38. Sarah Frances Schoepflin, M.S. Thesis, Chair: Amy Pruden - completed
39. Kayla Bauhs, M.S. Thesis, Chair: Amy Pruden – completed

Members of Thesis and dissertation committee in other universities

1. Alison Gomeiz, M.S. Thesis, Chair: Benoit Van Aken, in George Mason University

Visiting Scholars

1. Dong Li (2017, Beijing University of Technology, China)
2. Youwei Cui (2018, Beijing University of Technology, China)
3. Li Tang (2013-2014, Shanghai Jiaotong University, China)

Honors and Awards Received by Advisees

1. Zhaohui An, Recipient of the 1st place award in Fresh Ideas Poster Contest in WaterJam 2021 conference, 09/2021
2. Rafael Iboleon, Recipient of a 2nd place award in CSAWWA's Annual Virtual Poster Competition, 07/2021
3. Rafael Iboleon, Recipient of Sussman Foundation Internship Award, 03/2021
4. Xueyao Zhang, Recipient of Sussman Foundation Internship Award, 03/2021
5. Hao Luo, Recipient of Sussman Foundation Internship Award, 03/2020
6. Jiefu Wang, Recipient of Sussman Foundation Internship Award, 03/2020

7. Yewei Sun, Recipient of 1st place award in water poster competition in WaterJam, 09/2019
8. Yewei Sun, Featured Speaker of WEFTEC 2019, 09/2019
9. Yewei Sun, Recipient of Sonny Roden Graduate Scholarship, 09/2019
10. Yewei Sun, Recipient of Tom Grizzard Scholarship, 09/2019
11. Zhaohui An, Recipient of Sussman Foundation Internship Award, 03/2019
12. Timothy Robert Kent, Recipient of AEESP Master's Thesis Award, 05/2019
13. Yewei Sun, Recipient of AEESP student travel award, 06/2017
14. Dian Zhang, Recipient of Sussman Foundation Internship Award, 03/2017
15. Jie Lin, Recipient of NASSCO Scholarship, 04/2017
16. Yewei Sun, Recipient of Sussman Foundation Internship Award, 03/2016

SERVICE

Departmental Service

- Director, Center for Applied Water Research and Innovation (CAWRI), Virginia Tech, 2017-present
- Director, Renewable Energy Program, The Ohio State University, 2014 to 2015
- Served as the member of distance learning committee, 2017 to present.
- Served as the advisor for the Student AWWA group, 2021 to present

Professional Service

- Associate Editor, Water Environment Research, 2017 – 2018
- Editorial board member
  Water Environment Research, 2019 – present
  Journal of Environmental Sciences, 2013 – present
- Moderator in AEESP 2017 for Advancing Community Health through Technology Innovation session. Ann Arbor, Michigan, Jun 20-22, 2017
- Judge for 2018 WaterJAM YP Poster Contest

- Peer reviews for scientific journals:
  Applied Microbiology and Biotechnology
  African Journal of Biotechnology
  Biochemical Engineering Journal
  Biofouling
  Biomass and Bioenergy
  Bioprocess and Biosystems Engineering
  Bioresource Technology
  Biotechnology Advances
  Biotechnology and Bioengineering
  Biotechnology for Biofuels
  CLEAN – Soil, Air, Water; Chemosphere
  Colloids and Surfaces B: Biointerfaces
  Critical Reviews in Environmental Science and Technology
  Environmental Pollution
  Environmental Science and Technology
  Environment International
  International Journal of Environment and Waste Management
  International Journal of Microbiology
  Journal of Biobased Materials and Bioenergy
  Journal of Chemical Technology & Biotechnology
  Journal of Chemical & Engineering Data
  Journal of Environmental Sciences
  Journal of Industrial & Engineering Chemistry Research
  Journal of Waste Management
  Process Biochemistry
  Resources, Conservation & Recycling
  Transactions of the ASABE
  Water Research

Grant proposal reviewer

- Environment and Natural Resources Trust (2020)
- UK-EPSRC (2020)
- NSF-INFEWS (2017)
- NSF-CBET (2017)
- NSF-CDS&E (2017)
- USDA-Sun Grant (2013, 2016)
- USAID-S&T (2017)
- Netherlands Organisation for Scientific Research (2017)
- Natural Sciences and Engineering Research Council of Canada (2013)

Community Service

- Lectured Environment Classes in Flint Hill Upper School on 10/20/16, 3/3/17, 11/11/17, 4/17/18, 11/9/18, 4/8/19, 11/6/19, 4/13/20, 11/30/2020
- Gave a career day presentation to the Forestville Elementary School on 6/3/19
- Mentored the 2019 summer internship of Pierre Quan from Langley High School and Steve Jia from Thomas Jefferson High School
- Lectured a class for the Ashby Ponds Retirement Community on 2/15/17

PROFESSIONAL AFFILIATIONS

- Association of Environmental Engineering and Science Professors (2015-present)
- American Society of Agricultural and Biological Engineering (2013-present)
- Water Environment Federation (2015-present)
- Virginia Water Environment Association (2015-present)
- Overseas Chinese Agricultural, Biological, and Food Engineers (2018-present)
- American Society of Civil Engineers (2018-present)