

# DANMENG SHUAI

Assistant Professor

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## PROFESSIONAL

*2013-Present* Assistant Professor, **The George Washington University**  
Department of Civil and Environmental Engineering

*2012-2013* Post-Doctoral Research Associate, **University of Iowa**  
Department of Civil and Environmental Engineering

*2007-2012* Graduate Research and Teaching Assistant,  
**University of Illinois at Urbana-Champaign**  
Department of Civil and Environmental Engineering

*2005-2007* Graduate Research Assistant, **Tsinghua University**  
Department of Environmental Sciences and Engineering

## EDUCATION

*2012* **University of Illinois at Urbana-Champaign, USA**  
Ph.D. in Environmental Engineering

- Dissertation title: Development of sustainable Pd-based catalysts for removal of persistent contaminants from drinking water
- Advisors: Charles J. Werth and John R. Shapley
- Committee: Timothy J. Strathmann and William F. Schneider

*2007* **Tsinghua University, P. R. China**  
M.E. in Environmental Sciences and Engineering

- Advisor: Gang Yu

*2005* **Tsinghua University, P. R. China**  
B.E. in Environmental Sciences and Engineering

## RESEARCH INTERESTS

### Advanced Materials for Water-Energy-Health Nexus

- **Water Treatment:** Oxidation, reduction, and membrane separation processes, and the integration of renewable energy
- **Renewable Energy Production:** biofuel production from algae and food waste
- **Public Health Protection:** Antimicrobial materials

## HONORS AND AWARDS

2018 GW School of Engineering and Applied Sciences Outstanding Junior Researcher Award, 04/2018.

2015 Civil and Environmental Engineering Professor of the Year, The Engineer's Council at GW, 02/2015.

NANO 2010 Student Platform Presentation Award, 3<sup>rd</sup> place, Clemson University, USA, 08/2010.

NSF-AEESP Grand Challenge Student Paper Award, AEESP Conference, Iowa City, IA, USA, 07/2009.

Excellent Student Scholarship, Department of Environmental Science and Engineering, Tsinghua University, P. R. China, 2005-2006.

Tsinghua University–DuPont Scholarship, Tsinghua University, P. R. China, 2003-2004.

Tsinghua University–Beijing Commercial Bank Scholarship, Tsinghua University, P. R. China, 2002-2003.

Excellent Student Scholarship, Department of Environmental Science and Engineering, Tsinghua University, P. R. China, 2001-2002.

## SPONSORED RESEARCH PROJECTS

### Extramural Research Grants

Total at The George Washington University = \$1,269,716

6. National Science Foundation | PI | 09/2018-02/2019 \$50,000  
I-Corps: Visible-light-responsive Graphitic Carbon Nitride for Air and Water Purification and Antimicrobial Applications  
Entrepreneurial Leads: Qinmin Zheng and Ruochen Zhu, Technical Lead: Hongchen Shen, all Ph.D. students of the PI; and Industry Mentor: Henrik de Gyor
5. National Science Foundation | PI | 07/2018-06/2021 \$310,000  
Collaborative Research: Integrated Experimental and Computational Studies for Understanding the Interplay of Photoreactive Materials and Persistent Contaminants  
Co-PI: Hanning Chen at The George Washington University and PI: Nan Jiang at the University of Illinois at Chicago. \$549,546 as total.
4. US Department of Agriculture | Co-PI | 07/2018-06/2021 \$93,517  
Synergistic Integration of the Biogranulation Theory into Advanced Membrane Bioreactors for Value-Added Chemicals Production from Food Waste  
PI: Haibo Huang and co-PI: Zhiwu Wang, both at Virginia Polytechnic Institute and State University. \$327,517 as total.
3. US Department of Agriculture | PI | 07/2017-06/2020 \$450,200  
Development of Graphitic-Carbon-Nitride-Based Antimicrobial Nanomaterials for Safe Food Processing and Packaging  
Co-PIs: Santiago D. Solares, Hanning Chen, and Ganhui Lan at The George Washington University.
2. National Science Foundation | PI | 09/2016-08/2019 \$160,000  
SusChEM: Collaborative Research: Development of Multifunctional Reactive Electrochemical Membranes for Biomass Recovery with Fouling Reduction, Water Reuse, and Cell Pretreatment  
PIs: Brian P. Chaplin at the University of Illinois at Chicago, and Wen Zhang at New Jersey Institute of Technology. \$480,000 as total.
1. National Science Foundation | PI | 09/2014-08/2018 \$205,999  
SusChEM: Collaborative Research: Development and Application of Piezoelectric Nanoheterostructures to Reduce the Chemical and Energy Demand of Water Treatment  
PIs/Co-PIs: Tianshu Li at The George Washington University, David M. Cwiertny at the University of Iowa, and Jin Nam and Nosang V. Myung at the University of California-Riverside. \$549,303 as total.

### Intramural Research Grants

Total at The George Washington University = \$95,417

6. GW, Duke Energy Renewables Innovation Fund | PI | 01/2019-12/2019 \$30,417  
Biomaterialized Human Viruses: Fate and Inactivation in Nutrient Recovery  
Co-PIs: Hanning Chen (Chemistry) and Yun Shen (Environmental and Occupational Health) at The George Washington University.
5. GW, Cross-Disciplinary Research Fund | PI | 07/2018-06/2019 \$40,000  
Biomaterialized Human Viruses: Fate and Inactivation in Nutrient Recovery  
Co-PIs: Santiago D. Solares (Mechanical and Aerospace Engineering) and Mimi Ghosh (Epidemiology and Biostatistics) at The George Washington University.
4. GW, CCAS, Innovative Cross-Disciplinary Excellence Award | Co-PI | 07/2016-06/2017 \$10,000  
Graphitic Carbon Nitride Based Lithium Sulfur Batteries

PI: Michael J. Wagner (Chemistry) at The George Washington University. \$20,000 as total.

3. GW, University Facilitating Fund | PI | 07/2014-06/2015 \$15,000  
Development of Electro-Reactive Micro- and Ultra-Filtration Membranes with Enhanced Contaminant Rejection and Destruction
2. UIowa, Center for Global and Regional Environmental Research | Co-PI | 07/2013-06/2014  
Use of Waste Heat to Sustainably Generate High Quality Effluent for Aquifer Recharge  
PI: David M. Cwiertny (Civil and Environmental Engineering) at the University of Iowa. \$30,000 as total.
1. UIowa, Center for Health Effects of Environmental Contamination | Co-PI | 07/2013-06/2014  
Point-of-Use Electrocatalytic Filters for Reduction of Persistent Contaminants from Drinking Water  
PI: David M. Cwiertny and co-PI: Richard L. Valentine, both in the Department of Civil and Environmental Engineering at the University of Iowa. \$30,000 as total.

## REFEREED JOURNAL PUBLICATIONS

# indicates my graduate students or post-doctoral researchers, \* indicates me as the corresponding author.

### Submitted

31. **López-Guerra, E. A.**,# **Shen, H.**,# Solares, S. D.,‡ **Shuai, D.**\* Acquisition of Time-frequency Localized Mechanical Properties of Heterogeneous Biofilms with High Spatial Resolution. Submitted to *Nanoscale* (‡ **Co-corresponding Author**)
30. Zhang, C., **Zhang, M.**,# Li, Y., **Shuai, D.** Visible-light-driven Photocatalytic Disinfection of Human Adenovirus by a Novel Heterostructure of Oxygen-doped Graphitic Carbon Nitride and Hydrothermal Carbonation Carbon. Revision Preparation for *Appl. Catal. B*
29. Chang, X., Yao, X., Liu, C., Yin, X., **Zheng, Q.**,# Lu, S., **Shuai, D.**, Sun, Y. Photocatalytic Degradation of Trihalomethanes (THMs) and Haloacetonitriles (HANs) on Graphite Carbon Nitride (g-C<sub>3</sub>N<sub>4</sub>) under Visible Light Irradiation. Revision Preparation for *Sci. Total Environ.*

### Published

28. **Shen, H.**,# **López-Guerra, E. A.**,# **Zhu, R.**,# Diba, T., **Zheng, Q.**,# Solares, S. D., Zara, J. M., **Shuai, D.**,\* Shen, Y.‡ Visible-light-responsive Photocatalyst of Graphitic Carbon Nitride for Pathogenic Biofilm Control. *ACS Appl. Mater. Interfaces* 2019, 11 (1), 373–384. (‡ **Co-corresponding Author**)
27. Zhang, C., Li, Y., **Shuai, D.**, Shen, Y., Xiong, W., Wang, L. Graphitic Carbon Nitride (g-C<sub>3</sub>N<sub>4</sub>)-based Photocatalysts for Water Disinfection and Microbial Control: A Review. *Chemosphere* 2019, 214, 462-479.
26. **Zheng, Q.**,# Xu, E., Park, E., Chen, H., **Shuai, D.**\* Looking at the Overlooked Hole Oxidation: Photocatalytic Transformation of Organic Contaminants on Graphitic Carbon Nitride under Visible Light Irradiation. *Appl. Catal. B* 2019, 240, 262-269.
25. Zhang, C., Li, Y., **Shuai, D.**, Shen, Y., Wang, D. Progress and Challenges in Photocatalytic Disinfection of Waterborne Viruses: A Review to Fill Current Knowledge Gaps. *Chem. Eng. J.* 2019, 355 (1), 399-415.
24. **Ye, T.**,# Banek, N. A., Durkin, D. P., Hu, M., Wang, X., Wagner, M. J., **Shuai, D.**\* Nitrogen-Functionalized Activated Carbon Support for Pd-based Catalysis: Mechanism and Application for Oxyanion Reduction and Water Purification. *ACS Appl. Nano Mater.* 2018, 1 (12), 6580–6586.
23. **Zhu, R.**,# Diaz, A. J., Shen, Y., Qi, F., Chang, X., Durkin, D. P., Sun, Y., Solares, S. D.,‡ **Shuai, D.**\* Mechanism of Humic Acid Fouling in a Photocatalytic Membrane System. *J. Membr. Sci.* 2018, 563, 531-540. (‡ **Co-corresponding Author**)
22. Zhang, C., Li, Y., **Shuai, D.**, Zhang, W., Niu, L., Wang, L., Zhang, H. Visible-light-driven, Water-surface-floating Antimicrobials Developed from Graphitic Carbon Nitride and Expanded Perlite for Water Disinfection. *Chemosphere* 2018, 208, 84-92.
21. Durkin, D. P.,† **Ye, T.**,‡# Choi, J., Livi, K. J. T., De Long, H. C., Trulove, P. C., Fairbrother, D. H., Haverhals, L. M.,‡ **Shuai, D.**\* Sustainable and Scalable Natural Fiber Welded Palladium-Indium Catalysts

for Nitrate Reduction. *Appl. Catal. B* 2018, 221, 290-301. († **Equal Contribution**, ‡ **Co-corresponding Author**)

20. Zhu, W.,† **Ye, T.**,†# Lee, S.-J., Cui, H., Miao, S., Zhou, X., **Shuai, D.**, Zhang, L. G. Enhanced Neural Stem Cell Functions in Conductive Annealed Carbon Nanofibrous Scaffolds with Electrical Stimulation. *Nanomedicine* 2018, 14 (7), 2485-2494. († **Equal Contribution**)
19. **Ye, T.**,# Durkin, D. P., Banek, N. A., Wagner, M. J., **Shuai, D.**\* Graphitic Carbon Nitride Supported Ultrafine Pd and Pd-Cu Catalysts: Enhanced Reactivity, Selectivity, and Longevity for Nitrite and Nitrate Hydrogenation. *ACS Appl. Mater. Interfaces* 2017, 9 (33), 27421-27426.
18. **Zheng, Q.**,# **Shen, H.**, # **Shuai, D.**\* Advances and Challenges of Graphitic Carbon Nitride as a Visible-Light-Responsive Photocatalyst for Sustainable Water Purification. *Environ. Sci.: Water Res. Technol.* 2017, 3, 982-1001. (Selected for **Outside Front Cover**)
17. Jadbabaei, N., Slobodjian, R. J., **Shuai, D.**, Zhang, H. Catalytic Reduction of 4-Nitrophenol by Palladium-Resin Composites. *Appl. Catal. A* 2017, 543, 209-217.
16. Jadbabaei, N., **Ye, T.**,# **Shuai, D.**, Zhang, H. Development of Palladium-Resin Composites for Catalytic Hydrodechlorination of 4-Chlorophenol. *Appl. Catal. B* 2017, 205, 576-586.
15. **Zheng, Q.**,# Durkin, D. P., Elenewski, J. E., Sun, Y., Banek, N. A., Hua, L., Chen, H., Wagner, M. J., Zhang, W., **Shuai, D.**\* Visible-Light-Responsive Graphitic Carbon Nitride: Rational Design and Photocatalytic Applications for Water Treatment. *Environ. Sci. Technol.* 2016, 50 (23), 12938-12948.
14. Li, Y., Zhang, C., **Shuai, D.**, Naraginti, S., Wang, D., Zhang, W. Visible-light-driven photocatalytic inactivation of MS2 by metal-free g-C<sub>3</sub>N<sub>4</sub>: Virucidal performance and mechanism. *Water Res.* 2016, 106 (1), 249-258.
13. Durkin, D. P., **Ye, T.**,# Larson, E. G., Haverhals, L. M., Livi, K. J. T., De Long, H. C., Trulove, P. C., Fairbrother, D. H., **Shuai, D.**\* Lignocellulose Fiber- and Welded Fiber- Supports for Palladium Based Catalytic Hydrogenation: A Natural Fiber Welding Application for Water Treatment. *ACS Sustain. Chem. Eng.* 2016, 4 (10), 5511-5522.
12. **Ye, T.**,# Durkin, D. P., Hu, M., Wang, X., Banek, N. A., Wagner, M. J., **Shuai, D.**\* Enhancement of Nitrite Reduction Kinetics on Electrospun Pd-Carbon Nanomaterial Catalysts for Water Purification. *ACS Appl. Mater. Interfaces* 2016, 8 (28), 17739-17744.
11. Hua, L.; Guo, L.; Thakkar, M.; Wei, D.; Agb akpe, M.; Kuang, L.; Magpile, M.; Chaplin, B. P.; Tao, Y.; **Shuai, D.**; Zhang, X.; Mitra, S.; Zhang, W. Effects of Anodic Oxidation of a Substoichiometric Titanium Dioxide Reactive Electrochemical Membrane on Algal Cell Destabilization and Lipid Extraction. *Bioresour. Technol.* 2016, 203, 112-117.
10. Nalbandian, M. J., Greenstein, K. E., **Shuai, D.**, Zhang, M., Choa, Y.-H., Parkin, G. F., Myung, N. V., Cwiertny, D. M. Tailored Synthesis of Photoactive TiO<sub>2</sub> Nanofibers and Au/TiO<sub>2</sub> Nanofiber Composites: Structure and Reactivity Optimization for Water Treatment Applications. *Environ. Sci. Technol.* 2015, 49 (3), 1654-1663.
9. **Shuai, D.**, McCalman, D. C., Choe, J. K., Shapley, J. R., Schneider, W. F., Werth, C. J. Structure Sensitivity Study of Waterborne Contaminant Hydrogenation Using Shape- and Size- Controlled Pd Nanoparticles. *ACS Catal* 2013, 3, 453-463.
8. Zhang, R.,† **Shuai, D.**,† Guy, K. A., Strathmann, T. J., Shapley, J. R., Werth, C. J. Elucidation of Nitrate Reduction Mechanisms on a Pd-In Bimetallic Catalyst Using Isotope Labeled Nitrogen Species. *ChemCatChem* 2013, 5 (1), 313-321. († **Equal Contribution**)
7. **Shuai, D.**, Choe, J. K., Shapley, J. R., Werth, C. J. Enhanced Activity and Selectivity of Carbon Nanofiber Supported Pd Catalysts for Nitrite Reduction. *Environ. Sci. Technol.* 2012, 46 (5), 2847-2855.
6. **Shuai, D.**, Wang, C., Genç, A., Werth, C. J. A New Geometric Method Based on 2D Transmission Electron Microscopy for Analysis of Interior versus Exterior Pd Loading on Hollow Carbon Nanofibers. *J. Phys. Chem. Lett.* 2011, 2 (9), 1082-1087.

5. **Shuai, D.**, Chaplin, B. P., Shapley, J. R., Menendez, N. P., McCalman, D. C., Schneider, W. F., Werth, C. J. Enhancement of Oxyanion and Diatrizoate Reduction Kinetics Using Selected Azo Dyes on Pd-Based Catalysts, *Environ. Sci. Technol.* 2010, 44 (5), 1773-1779.
4. Deng, S., **Shuai, D.**, Yu, Q., Huang, J., Yu, G. Selective Sorption of Perfluorooctane Sulfonate on Molecularly Imprinted Polymer Adsorbents, *Front. Environ. Sci. Eng. China* 2009, 3 (2), 171-177.
3. **Shuai, D.**, Deng, S., Yu, G., Yu, Q., Preparation and Characterization of Nano-polymeric Adsorbents for PFOS Removal from Drinking Water, *Environmental Pollution & Control (in Chinese)* 2007, 8, 588-591.
2. **Shuai, D.**, Yang, B., Yu, G., Effects of Surfactants and HPCD on 2,4,5-PCB Electroreduction Using a Pd Loaded Activated Carbon Felt Electrode. *Environmental Chemistry (in Chinese)* 2007, 4, 457-460.
1. Yang, B., Yu, G., **Shuai, D.** Electrocatalytic Hydrodechlorination of 4-Chlorobiphenyl in Aqueous Solution Using Palladized Nickel Foam Cathode. *Chemosphere* 2007, 67 (7), 1361-1367.

## INVITED EDITORIAL PUBLICATIONS

# indicates my graduate students or post-doctoral researchers, \* indicates me as the corresponding author.

6. **Zhu, R.**,# Tan, D. T., **Shuai, D.**\* Research Highlights: Applications of Atomic Force Microscopy in Natural and Engineered Water Systems. *Environ. Sci.: Water Res. Technol.* 2016, 2, 415-420.
5. Gomez-Smith, C. K., Tan, D. T., **Shuai, D.** Research Highlights: Functions of the Drinking Water Microbiome – from Treatment to Tap. *Environ. Sci.: Water Res. Technol.* 2016, 2, 245-249.
4. **Zheng, Q.**,# Tan, D. T., **Shuai, D.**\* Research Highlights: Research Highlights: Visible Light Driven Photocatalysis and Photoluminescence and Their Applications in Water Treatment. *Environ. Sci.: Water Res. Technol.* 2016, 2, 13-16.
3. Tan, D. T., **Shuai, D.** Research Highlights: advances and challenges in developing mainstream anammox treatment. *Environ. Sci.: Water Res. Technol.* 2015, 1, 546-549.
2. **Ye, T.**,# **Shuai, D.**\* Research Highlights: Under-Recognized Precursors and Sources for Disinfection Byproduct Formation. *Environ. Sci.: Water Res. Technol.* 2015, 1, 405-407.
1. Tan, D. T., **Shuai, D.** Research Highlights: Antibiotic Resistance Genes: from Wastewater into the Environment. *Environ. Sci.: Water Res. Technol.* 2015, 1, 264-267.

## CONFERENCE PRESENTATIONS

# indicates my graduate students or post-doctoral researchers, \* indicates me as the corresponding author.

52. **Zheng, Q.**,# **Shuai, D.**\* Sustainable Solar-Driven H<sub>2</sub>O<sub>2</sub> Production from H<sub>2</sub>O and O<sub>2</sub>, 2018 NSF Nanoscale Science and Engineering Grantees Conference, Alexandria, VA, USA, 12/2018. POSTER
51. **Shen, H.**,# **Shuai, D.**,\* Shen, Y.‡ Visible-light-responsive Photocatalyst of Graphitic Carbon Nitride Nanomaterials for Pathogenic Biofilm Control, 2018 SNO Conference, Washington, DC, USA, 11/2018. (‡ Co-corresponding Author) ORAL
50. **Zheng, Q.**,# **Shuai, D.**\* Sustainable Hydrogen Peroxide (H<sub>2</sub>O<sub>2</sub>) Production from H<sub>2</sub>O and O<sub>2</sub>, 2018 SNO Conference, Washington, DC, USA, 11/2018. ORAL
49. **López-Guerra, E. A.**,# **Shen, H.**,# Solares, S. D.,‡ **Shuai, D.**\* Measuring the Viscoelastic Properties of Biofilms with 4D Atomic Force Microscopy, 8<sup>th</sup> ASM Conference on Biofilms, Washington, DC, USA, 10/2018. (‡ Co-corresponding Author) POSTER
48. **Shen, H.**,# **López-Guerra, E. A.**,# **Zhu, R.**,# Diba, T., **Zheng, Q.**,# Solares, S. D., Zara, J. M., **Shuai, D.**,\* Shen, Y.‡ Visible-light-responsive Photocatalyst of Graphitic Carbon Nitride for Pathogenic Biofilm Control, 8<sup>th</sup> ASM Conference on Biofilms, Washington, DC, USA, 10/2018. (‡ Co-corresponding Author) POSTER
47. **Zheng, Q.**,# **Shuai, D.**\* Sustainable Hydrogen Peroxide Production from Water, Air, and Sunlight, Gordon Research Conference: Environmental Sciences: Water, Holderness, NH, USA, 06/2018. POSTER

46. **Shen, H.,# López-Guerra, E. A.,#** Diba, T., Solares, S. D., Zara, J. M., **Shuai, D.\*** Visible-light-responsive Graphitic Carbon Nitride Nanomaterials for Biofilm Control, Gordon Research Conference: Nanoscale Science and Engineering for Agriculture and Food Systems, South Hadley, MA, USA, 06/2018. POSTER
45. **Shen, H.,# López-Guerra, E. A.,#** Diba, T., Solares, S. D., Zara, J. M., **Shuai, D.\*** Visible-light-responsive Graphitic Carbon Nitride Nanomaterials for Biofilm Control, Gordon Research Seminar: Nanoscale Science and Engineering for Agriculture and Food Systems, South Hadley, MA, USA, 06/2018. ORAL
44. **Zheng, Q.,#** Chen, H., **Shuai, D.\*** Achieving Sustainable Water Purification: Tailored Graphitic Carbon Nitride for the Removal of Persistent Organic Contaminants, Gordon Research Conference: Nanoscale Science and Engineering for Agriculture and Food Systems, South Hadley, MA, USA, 06/2018. POSTER
43. **Ye, T.,#** Durkin, D. P., Banek, N. A., Wagner, M. J., **Shuai, D.\*** Nitrogen-doped graphene Supported Pd-based Catalysts for Water Decontamination, ACS Spring Meeting, New Orleans, LA, USA, 03/2018. ORAL
42. **Shen, H.,# Shuai, D.\*** Visible-Light-Responsive Photocatalytic Graphitic Carbon Nitride for Antimicrobial Applications, ACS Spring Meeting, New Orleans, LA, USA, 03/2018. ORAL
41. **Zheng, Q.,#** Chen, H., **Shuai, D.\*** Tailored Graphitic Carbon Nitride: Smart Design of Visible-Light-Responsive Photocatalysts to Achieve Sustainable Water Treatment, ACS Spring Meeting, New Orleans, LA, USA, 03/2018. ORAL
40. **Zhu, R.,#** Diaz, A., Shen, Y., Durkin, D. P., Sun, Y., Solares, S. D., **Shuai, D.\*** Mitigating of Humic Acid Fouling on Ultrafiltration Membranes in a Photocatalytic System, ACS Spring Meeting, New Orleans, LA, USA, 03/2018. ORAL
39. **Zheng, Q.,# Shuai, D.\*** Smart Design of Graphitic Carbon Nitride for Photocatalytic Water Treatment under Visible Light Irradiation, PANNANO-2017, Guarujá, SP, Brazil, 11/2017. ORAL
38. **Shen, H.,# Shuai, D.\*** Graphitic Carbon Nitride Nanomaterials for Sustainable Antimicrobial Applications, MoBE 2017, Washington, DC, USA, 10/2017. POSTER
37. **Shen, H.,# Shuai, D.\*** Visible-Light-Responsive Photocatalytic Graphitic Carbon Nitride for Antimicrobial Applications, AEESP Conference, Ann Arbor, MI, USA, 06/2017. ORAL
36. **Zheng, Q.,#** Chen, H., **Shuai, D.\*** Tailored Graphitic Carbon Nitride: Smart Design of Visible-Light-Responsive Photocatalysts to Achieve Sustainable Water Treatment, AEESP Conference, Ann Arbor, MI, USA, 06/2017. ORAL
35. **Ye, T.,# Shuai, D.\*** Graphitic Carbon Nitride Supported Ultrafine Pd and Pd-Cu Catalysts for Contaminant Reduction, AEESP Conference, Ann Arbor, MI, USA, 06/2017. POSTER
34. **Zhu, R.,#** Diaz, A., Solares, S. D., **Shuai, D.\*** Mitigating Humic Acid Fouling on a Photocatalytic Membrane System, AEESP Conference, Ann Arbor, MI, USA, 06/2017. POSTER
33. Durkin, D. P.,<sup>†</sup> **Ye, T.,<sup>†#</sup>** Choi, J., Livi, K. J. T., De Long, H. C., Trulove, P. C., Fairbrother, D. H., Haverhals, L. M.,<sup>‡</sup> **Shuai, D.\*** Sustainable and Scalable Natural Fiber Welded Palladium-Indium Catalysts for Nitrate Reduction (<sup>†</sup> Equal Contribution, <sup>‡</sup> Co-corresponding Author), ACS Spring Meeting, San Francisco, CA, USA, 04/2017. ORAL
32. **Shen, H.,# Shuai, D.\*** Antimicrobial Applications of Visible-Light-Responsive Photocatalysts, ACS Spring Meeting, San Francisco, CA, USA, 04/2017. ORAL
31. **Zhu, R.,#** Diaz, A., Solares, S. D., **Shuai, D.\*** Evaluation of Photocatalytic Membrane Fouling by Humic Acid, ACS Spring Meeting, San Francisco, CA, USA, 04/2017. ORAL
30. **Zheng, Q.,# Shuai, D.\*** Tailored Graphitic Carbon Nitride: The Selective Production of Reactive Oxygen Oxidative Species and Holes and Its Applications for Organic Micropollutants Removal, ACS Spring Meeting, San Francisco, CA, USA, 04/2017. ORAL
29. **Ye, T.,# Shuai, D.\*** Reduction of Waterborne Contaminants on Graphitic Carbon Nitride Supported Pd-Based Catalysts, ACS Spring Meeting, San Francisco, CA, USA, 04/2017. ORAL

28. **Shuai, D.\*** Graphitic Carbon Nitride (g-C<sub>3</sub>N<sub>4</sub>): Rational Design and Water Treatment Applications, ACS Fall Meeting, Philadelphia, PA, USA, 08/2016. ORAL
27. **Shuai, D.\*** Achieving Sustainable Water Treatment: Graphitic Carbon Nitride for Persistent Waterborne Contaminant Removal with Visible Light Irradiation, ACS Spring Meeting, San Diego, CA, USA, 03/2016. ORAL
26. Durkin, D. P., **Ye, T.,#** Larson, E. G., Haverhals, L. M., Livi, K. J. T., De Long, H. C., Trulove, P. C., Fairbrother, D. H., **Shuai, D.\*** Lignocellulose Fiber- and Welded Fiber- Supports for Palladium Based Catalytic Hydrogenation: A Natural Fiber Welding Application for Water Treatment, ACS Spring Meeting, San Diego, CA, USA, 03/2016. ORAL
25. **Zhu, R.,#** Diaz, A., Solares, S. D., **Shuai, D.\*** A Mechanistic Study of the Physical, Chemical, and Mechanical Properties of Natural Organic Matter on Photocatalytic Membranes to Understand Fouling Mitigation, ACS Spring Meeting, San Diego, CA, USA, 03/2016. ORAL
24. **Zheng, Q.,#** **Shuai, D.\*** Achieving Sustainable Water Treatment: Graphitic Carbon Nitride for Persistent Waterborne Contaminant Removal with Visible Light Irradiation, ACS Spring Meeting, San Diego, CA, USA, 03/2016. ORAL
23. **Ye, T.,#** **Shuai, D.\*** Fabrication of Sustainable Pd-Carbon Nanofiber Catalysts by Electrospinning for Waterborne Contaminant Hydrogenation, ACS Spring Meeting, San Diego, CA, USA, 03/2016. ORAL
22. **Zheng, Q.,#** **Shuai, D.\*** Achieving Sustainable Water Treatment: Graphitic Carbon Nitride for Persistent Waterborne Contaminant Removal with Visible Light Irradiation, AEESP Conference, New Haven, CT, USA, 07/2015. ORAL
21. **Ye, T.,#** **Shuai, D.\*** Facile and Sustainable Production of Catalysts for Water Purification: Facile Electrospinning Fabrication of Pd-Carbon Nanofiber Catalysts for Waterborne Contaminant Reduction, AEESP Conference, New Haven, CT, USA, 07/2015. POSTER
20. **Zheng, Q.,#** **Shuai, D.\*** Visible-Light-Responsive Graphitic Carbon Nitride for Photocatalytic Degradation of Persistent Waterborne Contaminants, ACS Spring Meeting, Denver, CO, USA, 03/2015. ORAL
19. **Ye, T.,#** **Shuai, D.\*** Fabrication of Sustainable Pd-Carbon Nanofiber Catalysts by Electrospinning for Waterborne Contaminant Hydrogenation, ACS Spring Meeting, Denver, CO, USA, 03/2015. ORAL
18. **Shuai, D.,** Greenstein, K. E., Cwiertny, D. M. Development and Application of Piezocatalysts for Advanced Oxidation Processes and Disinfection in Water Treatment, ACS Spring Meeting, Dallas, TX, USA, 03/2014. ORAL
17. Cwiertny, D. M., **Shuai, D.,** Myung, N. V. Exploration of Harvesting Heat and Mechanical Vibration to Drive Advanced Oxidation Processes for Water Treatment, ACS Fall Meeting, Indianapolis, IN, USA, 09/2013. ORAL
16. **Shuai, D.,** Cwiertny, D. M., Myung, N. V. Exploration of Harvesting Heat and Mechanical Vibration to Drive Advanced Oxidation Processes for Water Treatment, AEESP Conference, Denver, CO, USA, 07/2013. ORAL
15. **Shuai, D.,** Myung, N. V., Cwiertny, D. M. Synthesis of Pyroelectric and Piezoelectric Catalysts to Use Waste Energy for Water Treatment, Gordon Conference Environmental Nanotechnology, Stowe, VT, USA, 06/2013. POSTER
14. **Shuai, D.,** Greenstein, K. E., Nalbandian, M. J., Myung, N. V., Cwiertny, D. M. Electrospun Photocatalytic TiO<sub>2</sub> Nanofiber Composites with Enhanced Performance for Water Treatment, ACS Spring Meeting, New Orleans, LA, USA, 04/2013. ORAL
13. **Shuai, D.,** McCalman, D. C., Shapley, J. R., Schneider, W. F., Werth, C. J. Structure Sensitivity Study of Waterborne Contaminant Hydrogenation Using Shape- and Size- Controlled Pd Nanoparticles, ACS Fall Meeting, Philadelphia, PA, USA, 08/2012. ORAL
12. **Shuai, D.,** McCalman, D. C., Shapley, J. R., Schneider, W. F., Werth, C. J. Structure Sensitivity Study of Waterborne Contaminant Hydrogenation Using Shape- and Size- Controlled Pd Nanoparticles, ACS Spring Meeting, San Diego, CA, USA, 03/2012. ORAL

11. **Shuai, D.**, Choe, J. K., Shapley, J. R., Werth, C. J. Enhanced Activity and Selectivity of Carbon Nanofiber (CNF) Supported Pd Catalysts for Nitrite Reduction, AEESP Conference, Tampa, FL, USA, 07/2011. ORAL
10. **Shuai, D.**, Choe, J. K., Shapley, J. R., Schneider, W. F., Werth, C. J. Activity and Selectivity of CNF Supported Pd Catalysts for Nitrite Reduction, NANO 2010, Clemson, SC, USA, 08/2010. ORAL
9. **Shuai, D.**, Shapley, J. R., Werth, C. J. Activity and Selectivity Study of CNF Supported Pd-Based Catalysts for Nitrate Reduction, ACS Spring Meeting, San Francisco, CA, USA, 03/2010. ORAL
8. **Shuai, D.**, Chaplin, B. P., Shapley, J. R., Menendez, N., Schneider, W. F., Werth, C. J. Azo Dye Enhancement of Oxyanion and Diatrizoate Reduction Kinetics on Pd-Based Catalysts, AEESP Conference, Iowa City, IA, USA, 07/2009. ORAL
7. **Shuai, D.**, Chaplin, B. P., Shapley, J. R., Menendez, N., Schneider, W. F., Werth, C. J. Azo Dye Enhancement of Oxyanion and Diatrizoate Reduction Kinetics on Pd-Based Catalysts, MRS Spring Meeting, San Francisco, CA, USA, 04/2009. ORAL
6. **Shuai, D.**, Shapley, J. R., Werth, C. J. Nitrate Reduction on Carbon Nanotube Supported Pd-Based Catalysts, MRS Spring Meeting, San Francisco, CA, USA, 04/2009. POSTER
5. Deng, S., **Shuai, D.**, Yu, Q., Huang, J., Yu, G. Removal of Perfluorooctane Sulfonate by Molecularly Imprinted Polymeric Adsorbents, IWA World Water Congress and Exhibition, Vienna, Austria, 09/2008. POSTER
4. Deng, S., **Shuai, D.**, Yu, Q., Yu, G. Selective Removal of Perfluorooctane Sulfonate by Molecularly Imprinted Polymeric Adsorbents, Leading Edge Technology 2008, Zurich, Switzerland, 06/2008.
3. **Shuai, D.**, Wojnar, S., Chaplin, B. P., Shapley, J. R., Werth, C. J. Effects of Methyl Orange on Nitrate Reduction by a Pd-In/ $\gamma$ -Al<sub>2</sub>O<sub>3</sub> Catalyst, ACS Spring Meeting, New Orleans, LA, USA, 04/2008. ORAL and POSTER
2. Deng, S., Yu, Q., **Shuai, D.**, Yu, G. Adsorption of Perfluorooctane Sulfonate by Two Novel MIP Adsorbents, the 1<sup>st</sup> Korea-China Symposium on Persistent Organic Pollutants, Pohang, Korea, 08/2007.
1. Yang, B., Yu, G., **Shuai, D.** Electrocatalytic Hydrodechlorination of 4-Chlorobiphenyl in Aqueous Solution Using Palladized Nickel Foam Cathodes, Dioxin 2006, Oslo, Norwegian, 08/2006.

## INVITED PRESENTATIONS

21. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Chemistry, University of New Orleans, New Orleans, LA, USA, 10/2018.
20. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil and Environmental Engineering, University of Pittsburgh, Pittsburgh, PA, USA, 02/2018.
19. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil, Environmental and Architectural Engineering, University of Kansas, Lawrence, KS, USA, 01/2018.
18. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil & Environmental Engineering & Earth Sciences, University of Notre Dame, Notre Dame, IN, USA, 11/2017.
17. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Chemical, Biochemical and Environmental Engineering, University of Maryland, Baltimore County, Baltimore, MD, USA, 11/2017.
16. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil, Environmental, and Architectural Engineering, University of Colorado Boulder, Boulder, CO, USA, 09/2017.
15. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil and Environmental Engineering, Colorado School of Mines, Golden, CO, USA, 09/2017.
14. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil and Environmental Engineering, Michigan State University, East Lansing, MI, USA, 07/2017.



13. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Institute of Mass Spectrometer and Atmospheric Environment, Jinan University, Guangzhou, China, 06/2017.
12. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil, Environmental, and Geo- Engineering, University of Minnesota, Twin Cities, MN, USA, 04/2017.
11. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil and Environmental Engineering, Rutgers University, NJ, USA, 03/2017.
10. **Shuai, D.** Advanced Materials for Water-Energy-Health Nexus, Department of Civil and Environmental Engineering, University of Maryland, College Park, MD, USA, 02/2017.
9. **Shuai, D.** Advanced Materials for Sustainable Water Purification, Department of Environmental Engineering and Earth Sciences, Clemson University, SC, USA, 11/2016.
8. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Research Center for Eco-Environmental Sciences, Chinese Academy of Sciences, Beijing, China, 07/2016.
7. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, School of Environment, Tsinghua University, Beijing, China, 07/2016.
6. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, College of Environmental Sciences and Engineering, Peking University, Beijing, China, 07/2016.
5. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Department of Chemical, Biological, and Pharmaceutical Engineering, New Jersey Institute of Technology, Newark, NJ, USA, 04/2015.
4. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Department of Geography and Environmental Engineering, Johns Hopkins University, Baltimore, MD, USA, 09/2014.
3. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Department of Civil and Environmental Engineering, Temple University, Philadelphia, PA, USA, 09/2014.
2. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Department of Civil and Environmental Engineering, Virginia Tech, Blacksburg, VA, USA, 04/2014.
1. **Shuai, D.** Achieving Water Sustainability through Innovative Materials-Based Treatment Strategies, Department of Civil and Environmental Engineering, New Jersey Institute of Technology, Newark, NJ, USA, 10/2013.

## **PATENTS**

2. Oxygen and Nitrogen Functionalization of Activated Carbon Improves Pd Dispersion and Hydrogenation Reactivity, provisional application submitted.
1. Doped Graphitic Carbon Nitrides, Methods of Making and Uses of the Same. US 2017/0232427 A1, 08/17/2017.

## **TEACHING**

CE 3520: Environmental Engineering I: Water Resources and Water Quality, 2014-2018 Spring

CE 6501: Environmental Chemistry, 2016 Spring, 2016-2018 Fall

CE 6503: Principles of Environmental Engineering, 2013-2018 Fall

CE 6504: Water and Wastewater Treatment, 2017-2018 Spring

CE 6800: Emerging Technologies in Environmental Engineering, 2015 Fall

Awarded **Certificate** by The Faculty Learning Community for Junior Faculty, The George Washington University, 04/2015.

Awarded **Certificate in Foundations of Teaching**, University of Illinois at Urbana-Champaign, 04/2012.

## **SERVICE**

### **Departmental Service, GW**

Served as the undergraduate faculty advisor, 2017-Present. Listed alphabetically:

- Alexander Jasper
- Alphonso Bonds
- Brian Toscano
- Josephine Teat
- Khala Antoine
- Khalid Abanumay
- Kwame Bonsu
- Pengyu Chen
- Steven Brunetto
- Thomas Arena
- Yoon Sil Choi

Served as a member of the CEE laboratory committee, 2013-Present.

Mentor for undergraduate capstone course, 2016.

- The group of Elizabeth Manning, Jennifer Muething, and Ian Wong was the recipient of 2016 Pelton Senior Design Competition Green Award.

Served as a member of the doctoral qualifying exam committee, 2013-Present. Listed chronologically:

- Boxiao Cao
- Qinmin Zheng
- Tao Ye
- Ruochen Zhu
- Yuanfei Bi
- Arifur Rahman
- Abedeh Abdolghafoorian
- Baoqiang Li
- Hongchen Shen
- Mahmudul Hasan
- Parisa Heidary

Served as a member of the thesis and dissertation committee, 2013-Present. Listed chronologically:

- Taqsim Husnain
- Nuruol S. Mohd
- David J. Rigby
- Baoqiang Li
- Arifur Rahman
- Mahmudul Hasan
- Yuanfei Bi
- Elizabeth Manning
- Tao Ye

### **School Service, GW**

Judge, 2016 School of Engineering and Applied Sciences Research & Development Showcase

Floor marshal, 2014 School of Engineering and Applied Sciences Graduation Ceremony

Floor marshal, 2018 School of Engineering and Applied Sciences Graduation Ceremony

Served as a member of the thesis and dissertation committee, 2013-Present. Listed chronologically:

- Yuan Xiang (MAE, GW)

- Alfredo Diaz Gonzalez (MAE, GW)
- Enrique A. López-Guerra (MAE, GW)

### **Professional Service**

Highlights editor, Environmental Science: Water Research & Technology, 03/2015-05/2016.

Journal reviewer. 2007-Present. Listed alphabetically:

- ACS Applied Materials & Interfaces
- ACS Sustainable Chemistry & Engineering
- Applied Catalysis A: General
- Applied Catalysis B: Environmental
- Chemical Engineering Journal
- Chemical Reviews
- Colloids and Surfaces B: Biointerfaces
- ECS Journal of Solid State Science and Technology
- Environment International
- Environmental Engineering Science
- Environmental Science: Nano
- Environmental Science: Processes & Impacts
- Environmental Science & Technology
- Environmental Science & Technology Letters
- Environmental Science: Water Research & Technology
- Frontiers of Environmental Science and Engineering
- Industrial & Engineering Chemistry Research
- International Journal of Chemical Kinetics
- International Journal of Energy Research
- Journal of Chemical Technology & Biotechnology
- Journal of Colloid and Interface Science
- Journal of Membrane Science
- RSC Advances
- The Science of the Total Environment
- Scientific Reports
- Small
- Water Environment Research
- Water Research

Grant proposal reviewer, 2013-Present. Listed alphabetically:

- ACS Petroleum Research Fund
- National Science Foundation
- Research Growth Initiative, the University of Wisconsin-Milwaukee
- The National Academies of Science, Engineering, and Medicine
- US Department of Agriculture

Symposium organizer and session chair, 2015-Present. Listed chronologically:

- Symposium co-organizer, *Microalgae: A Renewable Energy Source and a Sustainable Solution for the Environment*, Division of Environmental Chemistry, ACS Spring 2015 National Meeting, Mar 22–26, 2015, Denver, CO, USA.
- Symposium co-organizer, *Innovative Materials & Technologies for Water Purification*, Division of Environmental Chemistry, ACS Spring 2016 National Meeting, Mar 13–17, 2016, San Diego, CA, USA.
- Symposium co-organizer, *Water-Energy Nexus*, Division of Energy and Fuels, ACS Fall 2016 National Meeting, Aug 21–25, 2016, Philadelphia, PA, USA.
- Symposium co-organizer, *Innovative Materials & Technologies for Water Purification*, Division of Environmental Chemistry, ACS Spring 2017 National Meeting, Apr 2–6, 2017, San Francisco, CA, USA.

- Symposium co-organizer, *Themed Session: Advanced Materials for Detection and Control of Chemical and Biological Contaminants*, 2017 Association of Environmental Engineering and Science Professors (AEESP) Conference, Jun 20-22, Ann Arbor, MI, USA.
- Symposium co-organizer, *Innovative Chemical & Material Processes for Sustainable Water Purification*, Division of Environmental Chemistry, ACS Spring 2018 National Meeting, Mar 18–22, 2018, New Orleans, LA, USA.

Served as a member of the doctoral qualifying exam committee, 2013-Present. Listed chronologically:

- Dian Zhang (CEE, VT)
- Yewei Sun (CEE, VT)

Served as a member of the thesis and dissertation committee, 2013-Present. Listed chronologically:

- Nastaran Jadbabaei (CEE, Temple University)
- David P. Durkin (Chemistry, JHU)

Judge, 2016 ASCE Sustainable Development Award, 04/2016.

Judge, 2014 ASCE Sustainable Development Award, 04/2014.

Membership Committee Chair, Chinese-American Professors in Environmental Engineering and Science, 03/2015-Present.

Assistant, facilitating discussions on AEESP policy statement, 07/2011.

Organizer, Advanced Courses for Drinking Water and Wastewater Treatment Technologies, Department of Environmental Sciences and Engineering, Tsinghua University, 2005-2007.

### **Community Service**

Served as a research mentor for outreach activities, 2015-Present. Listed chronologically:

- Adam Workineh (School Without Walls, Washington, D.C., 2015 Spring)
- Arin Black (McKinley Technology High School, Washington, D.C., 2016 Spring)
- Lourdes Puig (School Without Walls, Washington, D.C., 2016 Spring)
- Nira Nair (Thomas Jefferson High School for Science and Technology, Alexandria, VA, 2017 Summer)
- Ashley Hawkins (Harpeth Hall School, Nashville, TN, 2018 Spring)
- Colleen Choi (Thomas Jefferson High School for Science and Technology, Alexandria, VA, 2018 Summer)

### **ADVISEES**

#### **Postdoctoral Researcher**

- Dr. Enrique A. López-Guerra (2018 Summer-Present)

#### **Ph.D. Students**

- Tao Ye (2014 Spring-2018 Summer), Currently as a postdoctoral researcher in the Department of Bioengineering at the University of Washington.
- Qinmin Zheng (2014 Fall-Present)
- Ruochen Zhu (2015 Fall-Present)
- Hongchen Shen (2016 Fall-Present)
- Mengyang Zhang (2018 Spring-Present)
- Mengqiao Li (2019 Spring-Present)

#### **M.S. Students**

- Zhe Zhou (2017 Fall-Present)
- Yusi Li (2017 Fall-Present)

#### **Undergraduates**

- Suty Komsonkeo (Class of 2015)
- Elizabeth Manning, Jennifer Muething, and Ian Wong for CEE Senior Design (Class of 2016)
- Michaela Stanch (Class of 2017)

- Jiangnan Lu (Class of 2018)
- Khalid Alsadhan (Class of 2018)
- Kayla Tarr (Class of 2019)
- Yoon Sil Choi (Class of 2020)

#### **Visiting Scholars**

- Yingxue Sun (2015-2016, Beijing Technology and Business University, China)
- Chi Zhang (2018, Hohai University, China)

### **HONORS AND AWARDS RECEIVED BY ADVISEES**

Yoon Sil Choi, Recipient of 2019 GW Undergraduate Sustainability Scholars Award, 01/2019.

Qinmin Zheng, Recipient of 2018 SNO Conference Student Award, 09/2018.

Yoon Sil Choi, Recipient of 2018 GW Undergraduate Research Award, 05/2018.

Yoon Sil Choi, Recipient of 2018 American Society of Civil Engineers-National Capital Section Hathaway Memorial Award/Scholarship, 03/2018.

Hongchen Shen, Recipient of AccelerateGW I-Corps Site Program Grants, GW SEAS Student Research and Development Showcase, 02/2018.

Tao Ye, Recipient of The Chemical Society of Washington (ACS) Student Travel Award, 02/2018.

Tao Ye, Recipient of Dewberry Scholarship, Department of Civil and Environmental Engineering, The George Washington University, 08/2017.

Hongchen Shen, Recipient of 2017 AEESP Conference Stantec Student Travel Award, 06/2017.

Qinmin Zheng, Recipient of 2017 CAPEES Founding President Best Paper Award, 04/2017.

Khalid Alsadhan, Recipient of 2017 American Society of Civil Engineers-Virginias' Student Conference Hardy Cross Competition Award, 3<sup>rd</sup> place, 03/2017.

Ruochen Zhu, Recipient of The Chemical Society of Washington (ACS) Student Travel Award, 02/2017.

Hongchen Shen, Runner-up Prize, GW SEAS Student Research and Development Showcase, 02/2017.

Qinmin Zheng, 2<sup>nd</sup> Place of Graduate Student Experimental Research Prize, GW SEAS Student Research and Development Showcase, 02/2017.

Qinmin Zheng, Recipient of GW Conference Travel Grant for Graduate Students, 02/2017.

Tao Ye, Recipient of ACS ENVR Graduate Student Award, 02/2017.

Elizabeth Manning, Jennifer Muething, and Ian Wong, Recipients of 2016 Pelton Senior Design Competition Green Award, 05/2016.

Qinmin Zheng, Recipient of The Chemical Society of Washington (ACS) Student Travel Award, 02/2016.

Tao Ye, Runner-up of 2015 GW Research Days Best Poster Presentation Award, 03/2015.

Tao Ye, Recipient of The Chemical Society of Washington (ACS) Student Travel Award, 02/2015.

Suty Komsonkeo, Recipient of 2014 GW Undergraduate Research Assistantship Fund, 01/2014.

### **PROFESSIONAL AFFILIATIONS**

Member of American Chemical Society (2008-Present)

Member of Association of Environmental Engineering and Science Professors (2009-Present)

Member of Chinese-American Professors in Environmental Engineering and Science (2013-Present)

Member of American Society for Microbiology (2018-Present)

Member of Sustainable Nanotechnology Organization (2018-Present)

Member of Royal Society of Chemistry (2015-2018)

Member of American Water Works Association (2011-2012)

Member of American Association for Advancement of Science (2011-2012)