Yun Shen

Phone: 217-898-1087 Email: yunshen@gwu.edu

Professional

- Assistant Professor **2022-Present**
  Department of Civil and Environmental Engineering, **George Washington University**
- Assistant Professor **2020-2022**
  Department of Chemical and Environmental Engineering, **University of California, Riverside**
- Visiting Researcher **2019-2020**
  National Cancer Institute, **National Institute of Health**
- Visiting Researcher **2019-2020**
  Department of Environmental and Occupational Health, **George Washington University**
- Postdoctoral Research Fellow **2016-2019**
  Department of Civil and Environmental Engineering, **University of Michigan**
- Graduate Research and Teaching Assistant **2011-2016**
  Department of Civil and Environmental Engineering, **University of Illinois at Urbana-Champaign**
- Graduate Research Assistant **2008-2011**
  College of Environmental Science and Engineering, **Peking University**

Education

Ph.D. Environmental Engineering University of Illinois at Urbana-Champaign 2011-2016
- Dissertation title: The Role of Biofilms in *Legionella pneumophila* Transmission in Drinking Water Distribution System

M.S. Environmental Engineering Peking University, Beijing, P. R. China **2008-2011**
- Thesis title: Deposition of bacteriophage MS2 and hereditary material (RNA) on mineral surfaces

B.E. Environmental Engineering Hohai University, Nanjing, P. R. China **2004-2008**
- Thesis title: A continuous anaerobic baffled stacking microbial fuel cell for electricity generation

Research Grants

7. Persistence and Inactivation of Vesicle-Cloaked Enteric Virus Clusters in Agricultural Reuse Water (2021-2024). United States Department of Agriculture. **Co-PI.** $350,000 (my portion)/800,000 (total).

6. Vesicle-Cloaked Virus Clusters as Emerging Pathogens: Will They Challenge Current Disinfection Paradigm (2021-2023)? National Institutes of Health. **PI.** $145,461 (my portion)/430,343 (total).

5. Novel Quantitative Methods for Indigenous Viruses in Wastewater: Improving the Assessment of Water Reuse Treatment Performance (2021-2024). U.S. Environmental Protection Agency. **Co-PI.** $262,917 (my portion)/1,239,240 (total).

4. Electrospun Nanofibrous Air Filters for Coronavirus Control (2020-2023). National Science Foundation. **PI.** $130,000 (my portion)/200,000 (total).

3. Presence, Persistence, and Inactivation of Vesicle-Cloaked Rotavirus or Norovirus Clusters in Water (2020-2021). National Science Foundation. **PI.** $200,000 (my portion)/420,000 (total).

2. Interactions between Photoreactive 2D Nanomaterials and Biofilms (2019-2022). National Science Foundation. **PI.** $311,223 (my portion)/553,023 (total).

1. Abundance, Aerosolization, and Quantitative Microbial Risk Assessment of Opportunistic Bacterial Pathogens in the Built Environment (2016-2018). Alfred P. Sloan Foundation MoBE Postdoctoral Fellowship. **PI.** $120,000.

Peer-Reviewed Journal Publications

23. Yun Shen, Sarah J. Haig, Aaron J. Prussin II, Linsey C. Marr, and Lutgarde Raskin. Shower Water Contributed Viable Nontuberculous Mycobacteria to Indoor Air. Accepted by *PNAS Nexus* in August 2022.

22. Hongchen Shen, Zhe Zhou, Haihuan Wang, Mengyang Zhang, Minghao Han, **Yun Shen (Co-corresponding author)**, and Danmeng Shuai. Photosensitized Electrospun Nanofibrous Filters for Capturing and Killing Airborne Coronaviruses under Visible Light Irradiation. *Environmental Science & Technology.* 2022, 56 (7), 4295-4304

21. Hongchen Shen, Haihuan Wang, Zhe Zhou, Mengyang Zhang, Minghao Han, David P. Durkin, Danmeng Shuai, and **Yun Shen**. Development of Electrospun Nanofibrous Filters for Controlling Coronavirus Aerosols. *Environmental Science and Technology Letters*. 2021, 8 (7), 545–550

20. Hongchen Shen, David P. Durkin, Ashlee Aiello, Tara Diba, John Lafleur, Jason M. Zara, **Yun Shen (Co-corresponding author),** and Danmeng Shuai. Photocatalytic Graphitic Carbon Nitride-Chitosan Composites for Pathogenic Biofilm Control under Visible Light Irradiation. *Journal of Hazardous Material,* 2021, 408, 124890

19. Zhuodong Yu, Cory Schwarz, Liang Zhu, Linlin Chen, **Yun Shen,** and Pingfeng Yu. Hitchhiking Behavior in Bacteriophages Facilitates Phage Infection and Enhances Carrier Bacteria Colonization. *Environmental Science and Technology*, 2021, 55 (4), 2462-2472

18. Nicole Rockey, **Yun Shen,** Madeleine Wax, Sarah J. Haig, James Yonts, Guy Burke, David Yeoman, Zachary Hayes, Krista R. Wigginton, Lutgarde Raskin, and Terese M. Olson. Water Quality Monitoring before and after Lead Service Line Replacement and Identification in Flint, Michigan. *Environmental Science: Water Research & Technology*. 2021, 7 (4), 797-808

17. Conghui Huang, **Yun Shen,** Rebecca L. Smith, Shengkun Dong, and Thanh H. Nguyen. Effect of disinfectant residuals on infection risks from *Legionella pneumophila* released by biofilms grown under simulated premise plumbing conditions. *Environment International*, 2020, 137, 105561

16. Katherine Dowdell, Sarah J. Haig, Lindsay Caverly, **Yun Shen,** John J. LiPuma, and Lutgarde Raskin. Nontuberculous Mycobacteria in Drinking Water Systems – the Challenges of Characterization and Risk Assessment. *Current Opinion in Microbiology*, 2019, 57, 127-136

15. Yi Li, Hainan Wu, **Yun Shen,** Chao Wang, Peifang Wang, Wenlong Zhang, Yu Gao, and Lihua Niu. Statistical determination of crucial taxa indicative of pollution gradients in sediments of Lake Taihu, China. *Environmental Pollution*, 2019, 246, 753-762

14. Hongchen Shen, Enrique A. López-Guerra, Ruochen Zhu, Tara Diba, Qinmin Zheng, Santiago D. Solares, Jason M. Zara, Danmeng Shuai, and **Yun Shen (Co-corresponding author)**. Visible-Light-Responsive Photocatalyst of Graphitic Carbon Nitride for Pathogenic Biofilm Control. *ACS Applied Materials and Interfaces*, 2018, 11(1), 373-384

13. Chi Zhang, Yi Li, Danmeng Shuai, **Yun Shen,** Wei Xiong, and Linqiong Wang. Graphitic Carbon Nitride ($g\text{-}C_3N_4$)-based Photocatalysts for Water Disinfection and Microbial Control： a Review. *Chemosphere*, 2019. 214, 462-479

12. Chi Zhang, Yi Li, Danmeng Shuai, **Yun Shen,** and Dawei Wang. Progress and Challenges in Photocatalytic Disinfection of Waterborne Viruses: a Review to Fill Current Knowledge Gaps. *Chemical Engineering Journal*, 2018. 355 (1), 399-415

11. Peter P. Sun, Elbashir M. Araud, Conghui Huang, **Yun Shen,** Guillermo L. Monroy, Shengyun Zhong, Zikang Tong, Stephen A. Boppart, J. Gary Eden, and Thanh H. Nguyen. Disintegration of Simulated Drinking Water Biofilms with Arrays of Microchannel Plasma Jets. *npj Biofilms and Microbiomes*, 2018. 4(1), 24

10. Ruochen Zhu, Alfredo J. Diaz, **Yun Shen**, Fei Qi, Xueming Chang, David P. Durkin, Yingxue Sun, Santiago D. Solares, and Danmeng Shuai. Mechanism of Humic Acid Fouling in a Photocatalytic Membrane System. *Journal of Membrane Science*, 2018, 563(1), 531-540

9. Yun Shen, Pin Chieh Huang, Conghui Huang, Peng Sun, Guillermo L. Monroy, Wenjing Wu, Jie Lin, Rosa M. Espinosa-Marzal, Stephen A. Boppart, Wen-Tso Liu, and Thanh H. Nguyen. Effect of Water Hardness and Scale Inhibitors on Chemical Composition, Structure, and Stiffness of Simulated Drinking Water Biofilms. *npj Biofilms and Microbiomes*, 2018, 4(15)

8. Tooba Shoaib, Ariel Carmichael, Rebecca E. Corman, **Yun Shen**, Thanh H. Nguyen, Randy H. Ewoldt, and Rosa M. Espinosa-Marzal. Self-adaptive Hydrogels to Mineralization. *Soft Matter,* 2017, 13, 5469-5480

7. Yun Shen, Jun Li, Conghui Huang, Wenjing Wu, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Effect of Disinfectant Exposure on *Legionella pneumophila* Associated with Simulated Drinking Water Biofilms: Release, Inactivation, and Infectivity. *Environmental Science & Technology,* 2017, 51 (4), 2087–2095

6. Yun Shen, Conghui Huang, Guillermo L. Monroy, Dao Janjaroen, Nicolas Derlon, Rosa M. Espinosa-Marzal, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Response of Simulated Drinking Water Biofilm Mechanical and Structural Properties to Long-Term Disinfectant Exposure. *Environmental Science & Technology*, 2016, 50 (4), 1779-1787

5. Yun Shen, Guillermo L. Monroy, Nicolas Derlon, Dao Janjaroen, Conghui Huang, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Role of Biofilm Roughness and Hydrodynamic Conditions in *Legionella Pneumophila* Adhesion to and Detachment from Simulated Drinking Water Biofilms. *Environmental Science & Technology,* 2015, 49 (7), 4274-4282

4. Meiping Tong, **Yun Shen**, Haiyan Yang, and Hyunjung Kim. Deposition Kinetics of MS2 Bacteriophages on Clay Mineral Surfaces. *Colloids and Surfaces B: Biointerfaces*. 2012, 92, 340-347.

3. Yun Shen, Hyunjung Kim, Meiping Tong, and Qingyun Li. Influence of Solution Chemistry on the Deposition and Detachment Kinetics of RNA on Silica Surfaces. *Colloids and Surfaces B: Biointerfaces*. 2011, 82, 443-449.

2. Meiping Tong, Jiali Ding, and **Yun Shen**. Influence of Biofilm on the Transport of Fullerene (C60) Nanoparticles in Porous Media. *Water Research*. 2010, 44, 1094-1103.

1. Guoyu Long, Pingting Zhu, **Yun Shen**, and Meiping Tong. Influence of Extracellular Polymeric Substances (EPS) on Deposition Kinetics of Bacteria. *Environmental Science & Technology*. 2009, 43, 2308-2314.

Conference Presentations

25. Yihan Wang, Qiran Wu, Xun Guan, Ehsanur, Rahman, Boya Xiong, Yongtao Cui, Xitong Liu, Danmeng Shuai, and **Yun Shen**. Microplastics/nanoplastics as emerging environmental carriers to facilitate persistence and infectivity of coronavirus. AEESP Research and Education Conference, St. Louis, Missouri, June 28-30, 2022

24. Yiwen Zhu, Minghao Han, Tiong Aw, Joan B. Rose, Danmeng Shuai, and **Yun Shen**. Isolation and Identification of Emerging Environmental Pathogens of Vesicle-Cloaked Virus Clusters from Wastewater. AEESP Research and Education Conference, St. Louis, Missouri, June 28-30, 2022

21. Yun Shen, Yarong Qi, Xun Gong, and Xitong Liu. Probing the Interactions between Coronavirus with Contact Surfaces in the Presence of Body Fluids (invited). ACS Fall 2021, Atlanta, Georgia, August 22-26, 2021

20. Yun Shen, Linsey C. Marr, and Lutgarde Raskin. Viability of Nontuberculous Mycobacteria transferred from Shower Water to Indoor Air. 2019 Water Quality Technology Conference, Dallas, Texas, November 3–7, 2019

19. Yun Shen, Sarah J. Haig, Aaron J. Prussin II., Linsey C. Marr, and Lutgarde Raskin. Transfer of Nontuberculous Mycobacteria from Shower Water to Indoor Air. AEESP Research and Education Conference, Tempe, Arizona, May 14-16, 2019

18. Yun Shen, Sarah J. Haig, Aaron J. Prussin II., Linsey C. Marr, and Lutgarde Raskin. Nontuberculous Mycobacteria in Shower Water Transfer to Indoor Air. 2018 Water Quality Technology Conference, Toronto, Ontario, November 9–13, 2018

17. Yun Shen, Sarah J. Haig, Aaron J. Prussin II., Liem E. Setiawan, Linsey C. Marr, and Lutgarde Raskin. Quantification of *Mycobacterium* spp. in Hot Water and Aerosols Formed during Showering. MoBE 2017: Microbiology of the Built Environment Research and Applications Symposium, Washington D.C., October 10-12, 2017

16. Yun Shen, Sarah J. Haig, Aaron J. Prussin II., Liem E. Setiawan, Linsey Marr, and Lutgarde Raskin. Quantification of Opportunistic Bacterial Pathogens in Hot Water and Aerosols Formed during Showering. AEESP Research and Education Conference, Ann Arbor, Michigan, June 20-22, 2017

15. Conghui Huang, **Yun Shen,** Rebecca L. Smith, and Thanh H. Nguyen. Risk Assessment of *Legionella pneumophila* Infection by the Release from Biofilms in Premise Plumbing. AEESP Research and Education Conference, Ann Arbor, Michigan, June 20-22, 2017

14. Peter P. Sun, **Yun Shen,** Conghui Huang, Shengyun Zhong, Zikang Tong, J. Gary Eden, and Thanh H. Nguyen. Disruption of Simulated Drinking Water Biofilms with a Microplasma Jet Array. AEESP Research and Education Conference, Ann Arbor, Michigan, June 20-22, 2017

13. Terese M. Olson, **Yun Shen,** Nicole Rockey, Madeleine Wax, Sarah J. Haig, James Yonts, Guy Burke, David Yeoman, Zachary Hayes, Krista R. Wigginton, and Lutgarde Raskin. Quantification of Opportunistic Bacterial Pathogens and Metal Levels before and after Lead Service Line Replacement in Flint, MI. AEESP Research and Education Conference, Ann Arbor, Michigan, June 20-22, 2017

12. Yun Shen, Conghui Huang, Wenjing Wu, Rosa M. Espinosa-Marzal, Wen-Tso Liu, and Thanh H. Nguyen. Effect of Water Hardness and Scale Inhibitors on Chemical Composition, Structure, and Stiffness of Simulated Drinking Water Biofilms. 2017 Borchardt Conference, Ann Arbor, Michigan, February 21-22, 2017

11. Thanh H. Nguyen, **Yun Shen,** Jun Li, Conghui Huang, Wenjing Wu, Nicholas J. Ashbolt, and Wen-Tso Liu. Effect of Disinfectant Exposure on *Legionella pneumophila* Associated with Simulated Drinking Water Biofilms: Release, Inactivation, and Infectivity. 2016 Water Quality Technology Conference, Indianapolis, Indiana, November 13–17, 2016

10. Yun Shen, Wen-Tso Liu, and Thanh H. Nguyen. The Role of Biofilms in *Legionella pneumophila* Transmission in Drinking Water Distribution Systems. Microbiomes of the Built Environment: From Research to Application, Irvine, California, October 17-18, 2016

9. Yun Shen, Conghui Huang, Wenjing Wu, Rosa M. Espinosa-Marzal, Wen-Tso Liu, and Thanh H. Nguyen. Effect of Water Chemical Composition on Chemical Composition, Structure, and Stiffness of Simulated Drinking Water Biofilms. 252nd ACS National Meeting & Exposition, Philadelphia, Pennsylvania, August 21-25, 2016

8. **Yun Shen**, Conghui Huang, Guillermo L. Monroy, Dao Janjaroen, Nicolas Derlon, Rosa M. Espinosa-Marzal, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Response of Simulated Drinking Water Biofilm Mechanical and Structural Properties to Long-Term Disinfectant Exposure. 2015 Water Quality Technology Conference, Salt Lake City, Utah, November 15-19, 2015

7. **Yun Shen**, Conghui Huang, Guillermo L. Monroy, Dao Janjaroen, Nicolas Derlon, Rosa M. Espinosa-Marzal, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Effect of Long-Term Disinfectant Exposure on Mechanical and Structural Properties of Biofilms. IWA Biofilm Conference 2015, Arosa, Switzerland, August 23-26, 2015 (Session Chair)

6. **Yun Shen**, Conghui Huang, Guillermo L. Monroy, Dao Janjaroen, Nicolas Derlon, Rosa M. Espinosa-Marzal, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Drinking Water Biofilm Physical Property Change during Long-Term Disinfection: Implication on Pathogen Transmission. 2015 AEESP Research and Education Conference, New Haven, Connecticut, June 13-16, 2015

5. Conghui Huang, **Yun Shen,** and Thanh H. Nguyen. The effect of Biofilm Roughness and Hydrodynamic Condition in Particle Attachment Simulated with COMSOL. 2015 AEESP Research and Education Conference, New Haven, Connecticut, June 13-16, 2015

4. **Yun Shen**, Guillermo L. Monroy, Nicolas Derlon, Dao Janjaroen, Conghui Huang, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. The Role of Biofilms Roughness and Hydrodynamic Conditions on *Legionella pneumophila* Adhesion to and Detachment from Simulated Drinking Water Biofilms. 2014 Water Quality Technology Conference, Louisiana, New Orleans, November 16-20, 2014 (Invited Presentation)

3. **Yun Shen**, Dao Janjaroen, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Adhesion Kinetics of *Legionella pneumophila* onto Copper, PVC, and Biofilms Dependent on Cell Starvation and Surface Roughness. 2014 Water Quality Technology Conference, Louisiana, New Orleans, November 16-20, 2014

2. **Yun Shen**, Dao Janjaroen, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Detachment of *Legionella pneumophila* from Groundwater Biofilms Grown on PVC Coupons. 2014 Borchardt Conference, Ann Arbor, Michigan, February 25-26, 2014

1. **Yun Shen**, Guillermo L. Monroy, Nicolas Derlon, Dao Janjaroen, Conghui Huang, Eberhard Morgenroth, Stephen A. Boppart, Nicholas J. Ashbolt, Wen-Tso Liu, and Thanh H. Nguyen. Deposition Kinetics of *Legionella pneumophila* on Groundwater Biofilms Grown on PVC Coupons. 2013 Water Quality Technology Conference, Long Beach, California, November 3-7, 2013

Invited Presentations

12. **Yun Shen**, Pathogen Transmission and Control in Built Environment. California State University, Fullerton, Fullerton, California, 11/2021

11. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Fudan University, Shanghai, China, 08/2019

10. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Tongji University, Shanghai, China, 09/2019

9. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. University of Science and Technology of China, Hefei, China, 09/2019

8. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Zhejiang University, Hangzhou, China, 09/2019

7. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Nankai University, Tianjin, China, 08/2019

6. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Peking University, Beijing, China, 08/2019

5. **Yun Shen**, Pathogen Transmission across Drinking Water and Indoor Air. University of Miami, Miami, FL, USA, 03/2019

4. **Yun Shen**, Quantification and Identification of Mycobacterium Species in an Exhibit in Shedd Aquarium: the Link between Water, Air, and Animal Infection. Shedd Aquarium, Chicago, IL, USA, 10/2018

3. **Yun Shen**, Transmission of Respiratory Tract Opportunistic Pathogens in Drinking Water and Indoor Air. Missouri University of Science and Technology, Rolla, MO, USA, 08/2018

2. **Yun Shen**, The role of Biofilms in *Legionella Pneumophila* transmission in drinking water distribution system. University of Michigan, Ann Arbor, MI, USA, 08/2016

1. **Yun Shen**, The role of Biofilms in *Legionella Pneumophila* transmission in drinking water distribution system. Virginia Tech, Blacksburg, VA, USA, 05/2016

Selected Honors and Awards

12. AEESP Research and Education Conference Podium Presentation Award, Ann Arbor, MI, USA, 06/2017

11. Alfred P. Sloan Foundation Microbiology of the Built Environment Postdoctoral Fellowship, USA, 09/2016

10. American Water Works Association WQTC Student Best Paper Award, Salt Lake City, UT, USA, 11/2015

9. Yee Memorial Fund Fellowship, University of Illinois at Urbana-Champaign, Champaign, IL, USA, 03/2015

8. Abbott Lab Fellowship, University of Illinois at Urbana-Champaign, Champaign, IL, USA, 08/2011

7. May Fourth Fellowship, Peking University, Beijing, P. R. China, 10/2010

6. Runner-up in Shenwan Cup Academic Speech Contest, Peking University, Beijing, P. R. China, 04/2010

5. Outstanding Student Award, Peking University, Beijing, P. R. China, 06/2010

4. Outstanding Social Work Award, Peking University, Beijing, P. R. China, 10/2009

3. Social Work Fellowship, Innovation fellowship, Spiritual civilization fellowship, Hohai University, Nanjing, P. R. China, 09/2004-06/2008

2. Runner-up in National Mathematical Modeling Contest, P. R. China, 10/2006

1. National Scholarship, Hohai University, Nanjing, P. R. China, 10/2005

Teaching and Mentoring Experiences

2020-present **University of California, Riverside**

- **Courses**:

  CEE 160C: Environmental Engineering Lab (Winter 2021, Winter 2022). No teaching evaluation is available for lab course.

  CEE 146: Water Quality Systems Design (Spring 2021, Spring 2022). Teaching evaluation for Spring 2021: 4.64/5 (Average value in the department: 4.17/5. Average value on campus: 4.34/5).

CEE 132: Green Engineering (Spring 2022).

- **Mentoring:**

  Minghao Han (PhD student, 2020-present)

  Yihan Wang (PhD student, 2021-present)

  Li Qian (PhD student, 2021-present)

  Yiwen Zhu (PhD student, 2021-present)

  Yuepeng Sun (Postdoc Researcher, 2022-present)

2017-2019 **University of Michigan**

- **Mentoring**: Mentored one undergraduate student on her Summer Undergraduate Research in Engineering (SURE) program and independent study

2011-2016 **University of Illinois at Urbana-Champaign**

- **Teaching Assistant**: Environmental Engineering for two semesters (Fall semester instructor: Thanh H. Nguyen, Spring semester instructor: Jeremy S. Guest); Environmental Engineering Physical Principles for two semesters (Instructor: Thanh H. Nguyen)
- **Lecturer**: Introduction to Doctoral Study in Civil and Environmental Engineering
- **Mentoring**: Mentored one high school student for summer research, six undergraduate students on their Research Experience for Undergraduates (REU) programs and independent studies, and two master students on their independent research studies.

2008-2011 **Peking University**, Beijing, P. R. China

- **Mentoring**: Mentored one undergraduate student for two years on undergraduate research and thesis.

Professional Service

Conference Organizer and Session Chair

- Symposium organizer and session chair, The Special Symposium on Materials Approaches for Tackling COVID-19, 2020 Materials Research Society (MRS) Fall Meeting. November 27-December 4, 2020
- Symposium organizer, Themed Session of Advanced Materials for Detection and Control of Chemical and Biological Contaminants, AEESP Conference, Ann Arbor, MI, USA, Jun 20-22, 2017
- Session co-chair, Session of Biological Treatment, IWA Biofilm Conference 2015, Arosa, Switzerland, August 23-26, 2015

Dissertation Committee

Xinyu Tang (UC Riverside), Changxu Ren (UC Riverside), Hongchen Shen (UC Riverside), Mengyang Zhang (George Washington), Ruochen Zhu (George Washington)

Qualifying and Preliminary Exam Committee

Bosen Jin (UC Riverside), Ying Chen (UC Riverside), Ananta Azad (UC Riverside), Andrew Sanchez (UC Riverside), Xinyu Tang (UC Riverside), Phung Quan (UC Riverside), Hongchen Shen (George Washington), Mengyang Zhang (George Washington)

Undergraduate Committee in CEE department at University of California, Riverside

- Contribute to virtual teaching and mentoring strategies for undergraduate courses

- Contribute to design of undergraduate curriculum

Journal and Proposal Reviewer

- *Environmental Science and Technology, Water Research, Journal of Hazardous Materials, Journal of Hazardous Materials Advances, Environment International, Environmental Science: Water Research & Technology,* and others
- The Environment and Natural Resources Trust Fund

Journal Editor

- Guest editor for special issue of "One Health: For Environmental Health and Environmental Pollution Prevention" in *Journal of Hazardous Materials Advances*. 2022-Present.

Professional Development Activities

- Attended the workshop of metagenomics data analysis, 10/2019, Bethesda, Maryland
- Participated in semester-long course *Teaching Engineering*, 09/2017-11/2017, Ann Arbor, Michigan
- Attended NextProf workshop at University of Michigan, 05/2017, Ann Arbor, Michigan.
- Attended Mothur Workshop, 08/2016, Detroit, Michigan.
- Attended teaching assistant workshops, 11/2015 & 01/2016, Urbana, Illinois
- Attended quantitative microbial risk assessment interdisciplinary instructional institute (QMRA III) workshop, 08/2015, East Lansing, Michigan
- Attended biofilm imaging workshop, 08/2015, IWA Biofilm Conference, Arosa, Switzerland
- Attended Academic Job Search workshop, 06/2015, AEESP conference, New Haven, Connecticut
- Attended COMSOL Multiphysics workshop, 11/2014, Urbana, Illinois
- Attended biofilm modeling workshop, 04/2013, South Bend, Indiana
- Attended atomic force microscope (AFM) workshop, 03/2012, Urbana, Illinois

Professional Affiliations

Member of American Association for Aerosol Research (2021-present)

Member of American Water Works Association (2014-present)

Member of American Chemical Society (2015-present)

Member of International Water Association (2015-present)

Member of Association of Environmental Engineering and Science Professors (2017-present)