

Dr. Yaochun Yu

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RESEARCH INTERESTS

My research focuses on **Environmental Chemistry and Microbiology**. My research interests include investigating the **fate and biotransformation of anthropogenic contaminants** in the environments and the roles of functional environmental microorganisms in **bioremediation**. I apply advanced analytical chemistry approaches (i.e., high-resolution mass spectrometry) and non-targeted analysis to study the occurrence of contaminants, transformation products and pathways; (2) I use the Next-Generation Sequencing (bioinformatics) and biochemical techniques to gain functional insights into responsible microorganisms, genes, and enzymes.

SCIENTIFIC SKILLS

Analytical Chemistry: HPLC-HRMS/MS, GC-MS, GC-TCD/FID, Environmental-SEM
Molecular Biology: DNA/RNA extraction, PCR, (R.T.-)qPCR, Sequencing library preparation
Biochemistry: Gene expression, Protein assay (purification and activity screening)
Laboratory: Solid-phase extraction (SPE), aerobic/anaerobic microbes' cultivation and isolation
Data analysis: Target and non-target analysis, Bioinformatics (Whole genome sequencing, RNA-seq, 16S rRNA gene sequencing, metagenomic/metatranscriptomic sequencing)

EDUCATION AND TRAINING

02.2022- present| **Postdoctoral Scientist**, Department of Environmental Chemistry
Swiss Federal Institute of Aquatic Science and Technology (Eawag/ETH), Dübendorf, CH
Supervisor: Prof. Dr. Kathrin Fenner

01.2018-12.2021| **Ph.D., Environmental Science and Engineering**
University of Illinois Urbana-Champaign (UIUC), Champaign, IL, U.S.
Supervisor: Prof. Dr. Yujie Men (for both M.S. thesis and Ph.D. dissertation)
Dissertation: When chemistry meets microbiology: Biotransformation of emerging organic contaminants, <https://www.ideals.illinois.edu/items/123457>

01.2016-12.2017| **M.S., Environmental Science and Engineering**
University of Illinois Urbana-Champaign (UIUC), Champaign, IL, U.S.
Thesis: Ammonia-monooxygenase-mediated cometabolic biotransformation and abiotic transformation of micropollutants, <https://www.ideals.illinois.edu/items/105448>

09.2011-07.2015| **B.Eng., Hydrology and Water Resources Engineering (honor graduation)**
Jilin University (JLU), Jilin, China
Supervisor: Prof. Changchun Duan, Emeritus Professor in Isotope Hydrogeology
Thesis: Application of fuzzy mathematics and neural network methods in water quality evaluation

TEACHING CERTIFICATE

Higher Education Teaching Certificate (2024), The Derek Bok Center for Teaching and Learning, *Harvard University*.

OTHER PROFESSIONAL APPOINTMENTS

07.2019- 01.2022| **Visiting Project Scientist**, Water Center, Department of Chemical and Environmental Engineering, University of California, Riverside, CA, U.S.

Responsibilities: Responsible for conducting HPLC-HRMS/MS measurement and data analysis, with specialized focuses on LC-MS methods development and PFAS analysis. Measure and analyze more than 40,000 samples for various collaborative projects.

05.2016- 12.2021| **Graduate Research Assistant**, Department of Civil and Environmental Engineering, University of Illinois Urbana-Champaign, Champaign, IL, U.S.

PUBLICATIONS

First/co-first, *corresponding/co-corresponding authorship

6. **Yu Y**, Xu F, Zhao W, Thoma C, Che S, Richman J, Jin B, Zhu Y, Xing Y, Wackett L, Men Y*. (2024) Electron-bifurcation and fluoride efflux systems implicated in defluorination of perfluorinated unsaturated carboxylic acids by *Acetobacterium* spp. *Science Advances* DOI: [10.1126/sciadv.ado2957](https://doi.org/10.1126/sciadv.ado2957) ([Open access](#))
5. **Yu Y**, Trottman N, Schärer M, Fenner K, Robinson S*. (2024) Substrate promiscuity of xenobiotic-transforming hydrolases from stream biofilms impacted by treated wastewater. *Water Res.* <https://doi.org/10.1016/j.watres.2024.121593> ([Open access](#))
4. **Yu Y**, Che S, Ren C, Jin B, Tian Z, Liu J, Men Y*. (2022) Microbial defluorination of unsaturated per- and polyfluorinated carboxylic acids under anaerobic and aerobic conditions: a structure specificity study. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.1c05509](https://doi.org/10.1021/acs.est.1c05509) ([Open access](#))
3. **Yu Y**, Zhang K, Li Z, Ren C, Chen J, Lin Y-H, Liu J, Men Y*. (2020) Microbial cleavage of C–F bonds in two C₆ per- and polyfluorinated compounds via reductive defluorination *Environ. Sci. Technol.* DOI: [10.1021/acs.est.0c04483](https://doi.org/10.1021/acs.est.0c04483)
2. Han P, **Yu Y**, Zhou LJ, Tian Z, Li Z, Hou L, Liu M, Wu QL, Wagner M, Men Y*. (2019) Specific micropollutant biotransformation pattern by the comammox bacterium *Nitrospira inopinata*. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.9b01037](https://doi.org/10.1021/acs.est.9b01037)
1. **Yu Y**, Han P, Zhou LJ, Li Z, Wagner M, Men Y*. (2018) Ammonia monooxygenase-mediated cometabolic biotransformation and abiotic transformation of micropollutants in an AOB/NOB coculture. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.8b02801](https://doi.org/10.1021/acs.est.8b02801)

Co-authorship

17. Che S, Guan X, Rodrigues R, **Yu Y**, Xie Y, Liu C*, Men Y*. (2024) Synergistic Material-Microbe Interface towards Deeper Anaerobic Defluorination. *Proc. Natl. Acad. Sci. U.S.A.*, DOI: [10.1073/pnas.2400525121](https://doi.org/10.1073/pnas.2400525121)
16. Marti T, Schweizer D, **Yu Y**, Schärer M, Probst S, Robinson S* (2024) Machine learning reveals signatures of promiscuous microbial amidases for micropollutant biotransformations. bioRxiv. doi: <https://doi.org/10.1101/2024.08.09.606993> ([invited](#), *ACS Environmental Au*)
15. Seller-Brison C, Brison A, **Yu Y**, Robinson S, Fenner K*. (2024) Triggering adaptation towards catabolic degradation of trace organic chemicals in activated sludge. (in press *Water Res.*)

14. Zhang D*, Liu D, Jing J, Jia B, Tian Y, Le Y, **Yu Y**, Hu Q-N. (2024) Unveiling the Chemical Complexity of Food-Risk Components: A Comprehensive Data Resource Guide in 2024. *Trends Food Sci.* <https://doi.org/10.1016/j.tifs.2024.104513>
13. Jin B, Liu H, Shun C, Gao J, **Yu Y**, Liu J, Men Y*. (2023) Substantial defluorination of polychlorofluorocarboxylic acids triggered by anaerobic microbial hydrolytic dechlorination. *Nature Water.* DOI: [10.1038/s44221-023-00077-6](https://doi.org/10.1038/s44221-023-00077-6)
12. Li M, Durkin D.P, Waller G, **Yu Y**, Men Y, Ye T, Chen H*, Shuai D*. (2022) Transformation of graphitic carbon nitride by reactive chlorine species: "weak" oxidants are the main players. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.2c06381](https://doi.org/10.1021/acs.est.2c06381)
11. Han P*, Rios-Miguel AB, Tang X, **Yu Y**, Zhou LJ*, Hou LJ, Liu M, Zhao Q, Sun D, Jetten M, Welte C, Men Y*, Lückner S. (2023) Benzimidazole fungicide biotransformation pathways and products by comammox *Nitrospira* bacteria. *J. Hazard. Mater.* <https://doi.org/10.1016/j.jhazmat.2022.130558>
10. Liu Z, Chen Z, Gao J, **Yu Y**, Men Y, Gu C, Liu J*. (2022) Accelerated Degradation of Perfluorosulfonates (PFSA) and Perfluorocarboxylates (PFCAs) by U.V./Sulfite+Iodide: Reaction Mechanisms and System Efficiencies. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.1c07608](https://doi.org/10.1021/acs.est.1c07608) (2022 *Environmental Science and Technology Best Paper Award, 2nd joint runner-up*, [Open access](#))
9. Gao J, Liu Z, Bentel M, **Yu Y**, Men Y, Liu J*. (2022) Defluorination of ω-hydroperfluorocarboxylates (HPFCAs): distinct reactivities from perfluoro and fluorotelomeric carboxylates. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.1c04429](https://doi.org/10.1021/acs.est.1c04429)
8. Che S, Jin B, Liu Z, **Yu Y**, Liu J, Men Y*. (2021) Structure-specific aerobic defluorination of short-chain fluorinated carboxylic acids by activated sludge communities. *Environ. Sci. Technol. Lett.* DOI: [10.1021/acs.estlett.1c00511](https://doi.org/10.1021/acs.estlett.1c00511) ([Open access](#))
7. Liu Z, Bentel M, **Yu Y**, Ren C, Gao J, Pulikkal V, Sun M, Men Y, Liu J*. (2021) Near-Quantitative Defluorination of Perfluorinated and Fluorotelomer Carboxylates and Sulfonates with Integrated Oxidation and Reduction. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.1c00353](https://doi.org/10.1021/acs.est.1c00353) ([Open access](#))
6. Zhou LJ, Han P*, Zhao M, **Yu Y**, Sun D, Hou L, Tang X, Klümper U, Gu JD, Wu QL, Wagner M, Men Y. (2021) Biotransformation of lincomycin and three fluoroquinolone antibiotics by the ammonia oxidizers AOA, AOB and comammox: a comparison on removal rate, pathway, and mechanism *Water Res.* <https://doi.org/10.1016/j.watres.2021.117003>
5. Bentel M, Liu Z, **Yu Y**, Gao J, Men Y, Liu J*. (2020) Enhanced degradation of perfluorocarboxylic acids (PFCAs) by U.V./Sulfite treatment: reaction mechanisms and system efficiencies at pH 12. *Environ. Sci. Technol. Lett.* DOI: [10.1021/acs.estlett.0c00236](https://doi.org/10.1021/acs.estlett.0c00236)
4. Bentel M, **Yu Y**, Xu L, Kwon H, Li Z, Wong B, Men Y, Liu J*. (2019) Degradation of perfluoroalkyl ether carboxylic acids (PFECAs) with hydrated electrons: structure-reactivity relationship and environmental implications. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.9b05869](https://doi.org/10.1021/acs.est.9b05869) (*ACS Editors' Choice*, [Open access](#))
3. Zhou LJ, Han P*, **Yu Y**, Wang B, Men Y, Wagner M, Wu QL*. (2019) Cometabolic biotransformation and microbial-mediated abiotic transformation of sulfonamides by three ammonia oxidizers. *Water Res.* <https://doi.org/10.1016/j.watres.2019.05.031>
2. Bentel M, **Yu Y**, Xu L, Li Z, Wong B, Men Y, Liu J*. (2019) Defluorination of per- and polyfluoroalkyl substances (PFASs) with hydrated electrons: structural dependence and implications to PFAS remediation and management. *Environ. Sci. Technol.* DOI: [10.1021/acs.est.8b06648](https://doi.org/10.1021/acs.est.8b06648) ([Open access](#))

1. Xing Y, **Yu Y**, Men Y*. (2018) Occurrence and fate of emerging organic contaminants in wastewater treatment plants with an enhanced nitrification step. *Environ. Sci.: Water Res. Technol.* DOI: 10.1039/C8EW00278A

First/co-first, corresponding/co-corresponding authorship in pending

4. **Yu Y***, Zhang K, Steiner V-M, Poltorak V, Trottman N, Robinson S, Stath H, Hutter J, Fenner K. (2024) Exploring the Roles of Environmental Multicopper Oxidase in Xenobiotics Biotransformation: A Journey from Laboratory Observations to Predictive Modeling (Ready to be submitted to *Nature Water*)
3. **Yu Y**, Zhang K, Che S, Men Y* (2024) Impaired Microbial Defluorination Activity of an Unsaturated Perfluorinated Carboxylic Acid Due to Co-exposure with Trichloroethylene (TCE) (Ready to be submitted, *invited submission*, *ACS Environmental Au*)
2. Che S, Liu H, Men Y, Zhang S*, **Yu Y***. (2024) Biodefluorination of Emerging Per- and Polyfluoroalkyl Substances (PFAS): Current Understanding and Future Perspectives. (submitted to *Water Res. X*)
1. **Yu Y***, Liu H, Che S, Guan X, Zhao W, Davis C, Jin B, Liu J, Liu C, Men Y. (2023) Community dynamics of an anaerobic defluorinating culture revealed a synergistic microbial reductive defluorination pattern. (In prep. to be submitted to *ISME J.*)

Co-authorship in pending

3. Men Y*, Yang Y, Chong L, Lin Y-H, **Yu Y**, Xie Y, Liu J. (2024) Cracking Per- and Polyfluoroalkyl Substances: Truth and Myths, Promise and Pitfalls. (Ready to be submitted, *invited submission*, *Nat. Commun.*)
2. Kalt M, Udressy C, **Yu Y**, Colliquet A, Fenner K*. (2024) Preserving the Biotransformation Potential of Activated Sludge in Time: Towards Reproducible Incubation Experiments for Persistence Assessment (submitted to *Environ. Sci. Technol.*, *under review*)
1. Bentel M, Sui W, **Yu Y**, Ren C, Men Y, Liu J*. Rapid Degradation of Perfluorinated Carboxamides (PFCAm) within U.V./Sulfite Photochemical System via Novel Rearrangement Mechanism. (In prep. to be submitted to *JACS*)

FUNDED RESEARCH PROJECTS

5. Molecular mechanisms of microbiological degradation of pollutants in wastewater treatment and natural water environments. (Swiss National Science Foundation, 2022-2025) (Postdoc Project)
4. Pollutant biotransformation by metagenomic hydrolases (Eawag Discretionary Funds, 2021-2023) (Postdoc Project)
3. Identification, characterization, and application of reductive defluorinating microorganisms. (SERDP, Project No.: ER20-1541, 2020-2024), (Ph.D. Dissertation)
2. Cobalt-catalyzed Defluorination of Branched Perfluorinated Compounds. (NSF_ECS SusChEM: Collaborative Research, Award No. NSF CHE 1709286, 2017-2020), (Ph.D. Dissertation)
1. Roles of nitrifying microorganisms on biotransformation of emerging contaminants in wastewater treatment plants (University of Illinois Urbana-Champaign, 2016-2019) (M.S. Thesis & Ph.D. Dissertation)

TEACHING ACTIVITIES

Workshop: Integrative Workshop on Computational and Experimental Methods for Environmental Functional Gene/Enzyme Mining for Contaminant Removal

Role: Chair, organizer, and presenter

Audience: Ph.D. students and Postdocs from ETH Zurich and Eawag.

Course: CHE816.1 Applications in Chromatography and Mass Spectrometry

Role: Course Coach

Audience: Bachelor, Master, and Ph.D. students from the University of Zurich

Selected Guest Lectures: Topic (Institutions)

1. Environmental Microbiology: Anaerobic metabolism, electron-bifurcation in contaminants biodegradation and CO₂ reduction (Eawag, 2024)
2. Ion Mobility Spectrometry and the Analysis of Environmental Organic Contaminants (University of Zurich, 2024)
3. Stable Isotope Probing (SIP) in Bioremediation (Eawag, 2024)
4. The applications of UHPLC-HRMS in a high-throughput contaminants degradability screening assay (University of Zurich, 2023)
5. Environmental Microbiology: Defluorinating microbes in nature (U.C. Riverside, 2021)

CONFERENCE PRESENTATION(as the presenter).....

22. (Poster) **Yu Y.** et al. (2024) Functional Environmental Microbiome in Contaminants Biotransformation (original title: Electron-bifurcation and fluoride efflux systems in *Acetobacterium spp.* drive defluorination of perfluorinated unsaturated carboxylic acids). ISME 19, 2024, Cape Town, South Africa. (*ISME 19 Travel Grant*)
- 21&20. (Poster and *Poster Spotlight*) **Yu Y.** et al. (2024) Functional Environmental Microbiome in Contaminants Biotransformation (original title: Electron-bifurcation and fluoride efflux systems in *Acetobacterium spp.* drive defluorination of perfluorinated unsaturated carboxylic acids). ASM Microbe, 2024, Atlanta, Georgia, US. (Selected by two sessions: Poster Presentation and Poster Spotlight Oral Presentation) (*ASM Student & Postdoctoral Travel Award*)
19. (Oral) **Yu Y.** Exploring the Functional Environmental Microorganisms and Emerging Contaminants Biotransformation. The 2nd Europe-China Eco-Environmental Forum for Young Scholars Special Topics on Water Environment, 2023, Virtual Conference. (*Invited Talk*)
18. (Oral) **Yu Y.** Exploring the roles of environmental functional microbes in organic contaminants biotransformation: insights from a molecular perspective. The 2nd Europe-China Eco-Environmental Forum for Young Scholars, 2023, Leuven, Belgium. (*Invited Talk*)
17. (Oral) **Yu Y.**, Zhang K, Steiner VZ, Trottman T, Robinson S, Satoh H, Hutter J, Fenner K. A Unified Approach to Bioremediation: Combining Experimental Observation, Quantum Chemical Calculation, and Machine Learning Prediction, ICCE 2023, Venice, Italy.
16. (Oral) **Yu Y.**, Steiner VZ, Trottman T, Robinson S, Satoh H, Hutter J, Fenner K. Metatranscriptomics-derived laccase-mediator system for organic pollutants biotransformation: from experimental observations to quantum chemical predictions, BioRemid 2023, Muttenz, Switzerland.
15. (Oral) **Yu Y.** The identification of PFAS degradation microorganisms. Europe-China Eco-Environmental Forum for Young Scholars, 2022, Virtual Conference. (*Invited Talk*)
14. (Poster & *Poster Pitch*) **Yu Y.**, Trottman N, Scharer M, Zhang K, Kalt M, Ceppi E, Robinson S, Fenner K. Omics-based discovery of novel pollutant-degrading enzymes: from metagenomics data mining to enzyme functionality validation, ISME18, 2022, Lausanne, Switzerland. (*ISME Travel Awards for Young Scientist Members*)
13. (Poster) **Yu Y.** Liu H, Guan X, Che S, Zhao W, Jin B, Davis C, Liu C, Liu J, Men Y. Community dynamics and identification of functional genes during the enrichment of an anaerobic

- defluorinating culture, ISME18, 2022, Lausanne, Switzerland. (*Selected as a poster presentation but later withdrawn due to the time conflict with the ISME poster pitch*)
12. (Oral) **Yu Y**. Microbial cleavage of C-F bonds in PFAS: Promises and Challenges, Jilin University Water Resources & Environment Online Forum for International Young Scholars, 2022. (*Invited Talk*)
 11. (Oral) **Yu Y**. Microbial Cleavage of C–F Bonds in PFAS. Department of Environmental Chemistry, Swiss Federal Institute of Aquatic Science and Technology (EAWAG)
 10. (Oral) **Yu Y**, Che S, Ren C, Jin B, Tian Z, Liu J, Men Y. Microbial defluorination of unsaturated per- and polyfluorinated carboxylic acids under anaerobic and aerobic conditions: A structure specificity study. Spring ACS National Meeting & Exposition, 2022, San Diego, CA, U.S.
 9. (Oral) **Yu Y**, Davis C, Ran M, Liu J, **Men Y**. Metaomics analyses revealed the community dynamics and functional genes of an anaerobic enrichment culture during the defluorination processes. Spring ACS National Meeting & Exposition, 2022, San Diego, CA, U.S.
 8. (Oral) **Yu Y**, Microbial cleavage of C–F bonds in PFAS. Department of Chemical and Environmental Engineering, University of California, Riverside, CA, U.S. (*Invited Talk*).
 7. (Oral) **Yu Y**, Zhang K, Li Z, Ren C, Liu J, Men Y. Reductive defluorination of per- and polyfluoroalkyl substances by a dechlorinating microbial community. 258th Fall ACS National Meeting & Exposition, 2019, San Diego, CA, U.S. (*Invited Talk*).
 6. (Oral) **Yu Y**, Zhou LJ, Han P, Wang B, Men Y, Wagner M, Wu QL. Biotransformation of sulfonamides by ammonia oxidizers. Emerging Contaminants in Environment Conference, 2019, Urbana. I.L., U.S.
 5. (Oral) **Yu Y**, Han P, Zhou LJ, Tian Z, Li Z, Hou L, Liu M, Wu QL, Wagner M, Men Y. Distinctive capabilities of micropollutant biotransformation by comammox bacterium *Nitrospira inopinata*. 257th Spring ACS National Meeting & Exposition, 2019, Orlando, FL, U.S.
 4. (Oral) **Yu Y**, Han P, Zhou LJ, Tian Z, Li Z, Hou L, Liu M, Wu QL, Wagner M, Men Y. Biotransformation of carbendazim exclusively by a complete ammonia oxidizer *Nitrospira inopinata* among three ammonia-oxidizers. Emerging Contaminants in the Aquatic Environment Conference, 2018, Urbana, IL, U.S.
 3. (Oral) **Yu Y**, Han P, Zhou LJ, Li Z, Wagner M, Men Y. Ammonia monooxygenase-mediated cometabolic biotransformation and hydroxylamine-mediated abiotic transformation of micropollutants in an AOB/NOB co-culture. 255th ACS Spring National Meeting & Exposition, 2018, New Orleans, LA, U.S. (*Best Presentation, Certificate of Merit*).
 2. (Poster) **Yu Y**, Han P, Zhou LJ, Tian Z, Li Z, Hou L, Liu M, Wu QL, Wagner M, Men Y. Biotransformation of carbendazim exclusively by a complete ammonia oxidizer *Nitrospira inopinata* among three ammonia-oxidizers. AEESP Distinguished Lecturer Conference at Purdue University, 2018, West Lafayette, IN, U.S.
 1. (Oral) **Yu Y**, Han P, Zhou LJ, Li Z, Wagner M, Men Y. From correlation to causation: evidence of micropollutant biotransformation by ammonia-oxidizing bacteria using a nitrifying co-culture. Emerging Contaminants in the Aquatic Environment Conference, 2017, Urbana, IL, U.S.

SELECTED AWARDS AND GRANTS

From Graduate School and Postdoc

- Federation of European Microbiological Societies (FEMS) Grant (600 €) for Meeting Attendance, 2024
- ISME19 Travel Grant (800 €), International Society for Microbial Ecology (ISME), 2024

- ASM Student & Postdoctoral Travel Award (\$1000), American Society for Microbiology, 2024
- ISME Travel Awards for Young Scientist Members (100 €), ISME 18, 2022
- Graduate College Grants (\$5000), UIUC, 2021
- Award for Outstanding Students Abroad (\$6000), China Scholarship Council, 2021
- CAPEES Founding President Best Paper Awards, CAPEES, 2021
- C. Ellen Gonter Environmental Chemistry Award, Division of Environ. Chem., ACS, 2019
- Graduate Student Awards in Environmental Chemistry, Environ. Chem., ACS, 2019
- Racheff Student Travel Award, Environmental Engineering & Science, UIUC, 2018 & 2019
- Certificate of Merit, Division of Environmental Chemistry, ACS, 2018

From Undergraduate Study

- Outstanding Graduation Award for Bachelor Students, Jilin University, 2015
- National Scholarship, China Scholarship Council (Top 1 in department), 2014
- Li Siguang Geosciences Scholarship (the most prestigious award for geology-related majors in China), 2014
- Second-class Scholarship, Jilin University, 2013
- First-class Scholarship, Jilin University, 2012

SERVICES AND OUTREACH ACTIVITIES

- International Water Association (IWA) Young Scientist Association Switzerland Chapter, 2024 (Vice Chair)
- Peer-reviewer for journals: Environmental Science and Technology; Environmental Science and Technology Letters; Environmental Microbiology; Communications Biology; Water Research; Water Research X; ACS EST Water, etc. (Peer-reviewed 56 academic papers to date)
- Program Committee, Environmental Engineering & Science Symposium, UIUC (2017&2018)
- Chair of Cultural Awareness and Speech Enhancement (CASE) Program, Department of Civil and Environmental Engineering, UIUC (2018)
- Member of Cultural Awareness and Speech Enhancement (CASE) Program, Department of Civil and Environmental Engineering, UIUC (2016-2019)
- Member of American Chemical Society (ACS) since 2017
- Member of the International Society for Microbial Ecology (ISME) since 2022
- Member of the Swiss Society for Microbiology (SSM) since 2024
- Member of the American Society for Microbiology (ASM) since 2024