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PROFESSIONAL SUMMARY

Dr. Mohamed (Moha) Ateia is a globally recognized environmental engineer and strategist driving high-impact, scalable solutions in water treatment, sustainable chemistry, and emerging contaminant management. As a Principal Investigator at the U.S. EPA, he leads multidisciplinary teams to develop technology-driven, economically viable, and policy-shaping solutions that optimize resource efficiency and mitigate global environmental risks. With deep expertise at the intersection of science, policy, and business strategy, Moha has influenced corporate sustainability, regulatory frameworks, and industrial best practices, ensuring scientific breakthroughs translate into real-world, scalable impact. He has authored 80+ peer-reviewed publications, earned prestigious honors including The Honda Young-Engineers-Scientists (Y-E-S) First Place Prize, and was named to the "40 Under 40" list by the American Academy of Environmental Engineers and Scientists. A proven leader in problem-solving and decision-making, Moha combines data-driven insights, cross-sector collaboration, and innovation strategy to help organizations navigate environmental challenges, unlock opportunities, and drive long-term resilience.

PROFESSIONAL PREPARATION

Research Associate [11/2019 – 07/2021] – Department of Chemistry.
Northwestern University, IL, **USA** | **PI**: Prof. William Dichtel

Post-doc. [11/2017 – 10/2019] – Environmental Engineering and Earth Sciences.
Clemson University, SC, **USA**. [*Distinguished Postdoctoral Award* ★] | **PI**: Prof. Tanju Karanfil

Ph.D. [10/2014 – 09/2017] – Environmental Engineering (Minor in Material Science Engineering).
Tokyo Institute of Technology, Tokyo, **Japan**. [*Best Ph.D. Dissertation Award* ★] |
Advisor: Prof. Chihiro Yoshimura
[06/2015 – 10/2015 - 07/2016 – 10/2016] – Environmental Chemistry (Visiting Researcher)
Department of Chemistry, University of Copenhagen, **Denmark** | **Host**: Prof. Matthew S. Johnson

M.S. [10/2012 – 09/2014] – Environmental Engineering (Minor in Material Science Engineering).
Tokyo Institute of Technology, Tokyo, **Japan** | **Advisor**: Prof. Chihiro Yoshimura
[08/2013 – 09/2013] – Science Communication for Global Scientists (Intern)
The Royal Society and Parliamentary Office of Science and Technology (POST), London, **UK**.
Host: Prof. Michael Norton

B.S. [09/2005 – 06/2009] – Environmental and Agricultural Engineering.
Alexandria University, Alexandria, **Egypt**.

APPOINTMENTS

○ **Environmental Engineer and Group Leader (Title 42)** [08/2021 – Current]

US Environmental Protection Agency

Office of Research and Development | Center for Environmental Solutions & Emergency Response (CESER), OH, **USA**.

Leadership & Strategic Initiatives:

- Spearhead innovative PFAS remediation projects, including lab, pilot, and field-scale applications, to tackle contamination in hard-to-treat sources such as landfill leachate, wastewater, and Superfund sites.
- Initiate and lead cross-agency collaborations (ORD, CESER, CEMM) to address PFAS in landfill leachate and PFAS-free alternatives in consumer products and firefighting foams.
- Revitalize and lead the development of the PFAS Total Oxidizable Products (TOP) Assay method, a critical tool now recognized for its importance across multiple EPA divisions and external stakeholders.

Key Funded Projects:

- **Innovative PFAS Treatment Technologies**: $1.2M (2023–2026)
  Leading cutting-edge research on transformative PFAS removal and destruction technologies, including novel adsorbents and advanced oxidation.
- **Assessment of PFAS-Free Alternatives**: $420K (2023–2025)
  Evaluating the safety and environmental impacts of fluorine-free firefighting foams and consumer products.
- **Superfund Project: Development of scCO_2 Regeneration Method**: $650K (2024–2025)
  Innovating supercritical CO_2-based regeneration methods for granular activated carbon (GAC), addressing key challenges in PFAS remediation.
- **Regional Project with R4: Innovative Adsorbents**: $170K (2022–2025)
  Collaborating with Region 4 to develop and implement advanced adsorbent materials for PFAS removal.
- **Regional Project with R1: Spent GAC Management**: $125K (2025–2026)
  Addressing the sustainable management of spent granular activated carbon through novel regeneration approaches.
- **Pathfinder Innovation Project: Photo-Assisted Electrochemical PFAS Treatment**: $60K (2024–2025)
  Developing novel PFAS treatment technologies by integrating photocatalysis into electrochemical systems.

Mentorship & Workforce Development:

- Mentor a diverse team of researchers, postdocs, and interns (over eight mentees in FY24), fostering a collaborative environment for innovative problem-solving.
- Develop impactful mentoring programs, earning recognition with the CESER Shooting Star Award for excellence in mentoring.

Coalition Building & Partnerships:

- Establish and manage Memoranda of Understanding (MOUs) and Cooperative Research and Development Agreement (CRADA) with leading institutions (e.g., Northwestern University, Argonne National Lab) to advance PFAS treatment and toxicity studies.
- Act as a key liaison with external stakeholders, including acting as a Technical Committee with the SERDP-WP, DoD, to align research priorities and address stakeholder needs.

- **Adj. Assistant Professor** [01/2023 – Current]

  Rice University

  Chemical and Biomolecular Engineering Department, TX, **USA**.

  - Mentor graduate students and postdocs on advanced environmental engineering research, focusing on novel treatment technologies and material development.
  - Contribute to research programs addressing sustainability challenges, including the detection and mitigation of emerging contaminants.
  - Collaborate with faculty on multi-institutional projects, bridging academic innovation with practical environmental applications.

AWARDS AND HONORS

11. **11/2022: 2022 40 under 40 Recognition Program,** The American Academy of Environmental Engineers and Scientists.

10. **08/2019**: **2019 Clemson University Distinguished Postdoctoral Award**, Clemson University, USA.

9. **06/2019: Certificate of Merit**, Division of Environmental Chemistry, American Chemical Society.

8. **04/2019: Outstanding Presentation Award**, American Chemical Society (ACS) 257th National Meeting and Exhibition, April 2019, Orlando, FL, USA.

7. **12/2017: The Best Ph.D. Dissertation Award. First Place Prize**. Kikkawa-Yamaguchi Award 2017, Tokyo Institute of Technology, Japan.

6. **11/2015: The First Place Prize**. Honda Young-Engineers-Scientists (Y-E-S) Forum, Tokyo, Japan.

5. **12/2014: Best Presentation Award**, ACEEES Third International Educational Forum on Environment and Energy Sciences, Perth, Australia.

4. **11/2014: Best Presentation Award for Young Researchers,** 9th IWA International Symposium on Waste Management Problems in Agro-Industries, International Water Association (IWA), Kochi, Japan**.**

3. **10/2014 – 09/2017:** Japanese Government Scholarship (MEXT).

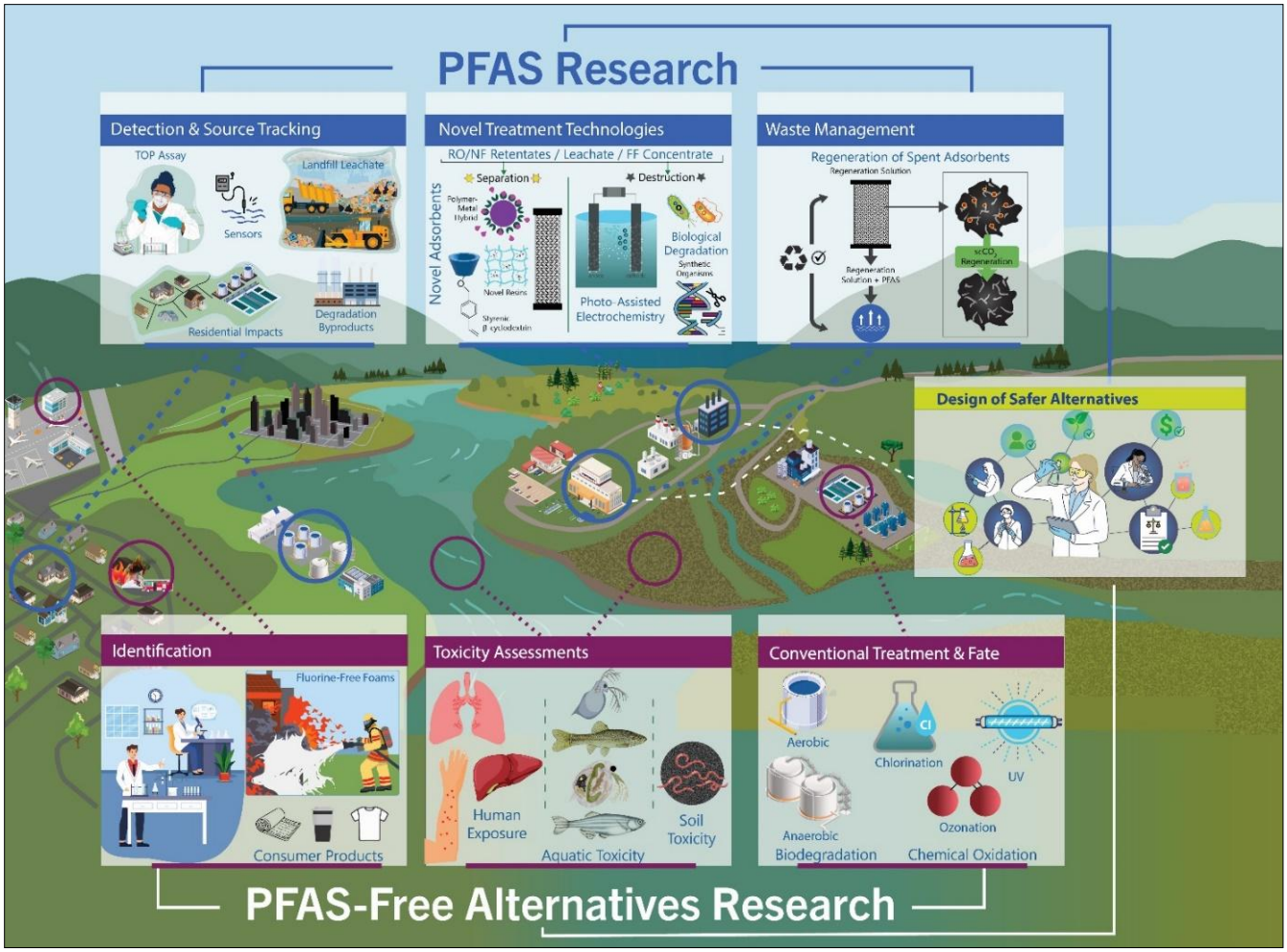
2. **10/2013: Certificate of Excellence - Best Presentation Award,** Tokyo Tech-KU joint seminar, Tokyo, Japan.

1. **10/2012 – 09/2014:** Japanese Government Scholarship (MEXT).

KEY RESEARCH CONTRIBUTIONS

My research focuses on detecting, removing, and degrading persistent contaminants like PFAS, while also evaluating and advancing safer alternatives to create a sustainable future. Through cutting-edge technologies, interdisciplinary collaborations, and field-scale applications, my work bridges fundamental discoveries with practical solutions that have broad environmental and societal impacts. Recognizing this expertise, I was recruited by the U.S. EPA under the distinguished Title 42 authority to lead transformative projects that connect cutting-edge science to impactful field applications.

At the core of my research group are four pillars: Detect, Adsorb, Degrade, and Substitute (D.A.D.S.). These pillars guide our efforts to address the full life cycle of PFAS and other emerging contaminants, from identifying their sources to removing them effectively, breaking them down into non-toxic components, and ensuring safer replacements are truly sustainable. Below are selected projects that demonstrate the transformative potential of our work, supported by key publications.



1. **Detect:** ***Expanding Detection Horizons***

Precision detection of PFAS and emerging contaminants is foundational to effective remediation. My group focuses on developing tools to locate and measure these pollutants accurately and affordably:

- **Total Oxidizable Precursors (TOP) Assay**: We refined this broad-spectrum tool to capture a wider range of PFAS than traditional methods by integrating thermal and UV activation. This work is advancing regulatory and industry-standard practices, ensuring greater consistency and reliability (*See Refs. 61, 76*).
- **Next-Generation Sensors**: In collaboration with Argonne National Laboratory, we are developing receptor-transducer frameworks for fast, cost-effective PFAS detection, providing critical tools for real-time environmental monitoring (*See Ref. 67*).
- **Source Tracking**: Partnering with the Metropolitan Sewer District of Greater Cincinnati and academic collaborators, we map PFAS flows from landfill leachates and other sources to industrial zones and wastewater streams, enabling targeted interventions at the source (*See Ref. 68, 75, 78, 80*).

2. **Adsorb:** ***Tackling Challenging Waste Streams***

Efficiently removing PFAS from complex waste streams remains a global challenge. My team addresses this through innovative materials and sustainable solutions:

- **Selective Adsorbents**: We test novel adsorbents, such as metal-organic frameworks (MOFs) and advanced polymeric hybrids, to outperform conventional granular activated carbon (GAC) and ion exchange (IX) resins in treating retentates and landfill leachates (*See Ref. 14, 19, 21, 33, 38, 49, 66*).
- **Green Regeneration**: I lead a Superfund-funded project on supercritical CO_2 regeneration, offering a cleaner, cost-effective method to recover and reuse adsorbents while avoiding emissions from thermal regeneration (*See Ref. 81*).

3. **Degrade:** ***Breaking Down the "Forever Chemicals"***

PFAS are known for their persistence, but my research group is tackling this challenge head-on with innovative degradation approaches:

- **Photo-Assisted Electrochemical Systems**: We design systems that combine photocatalysis and electrochemical oxidation to degrade PFAS and emerging micropollutants in complex waste streams efficiently. This approach achieves excellent mineralization while reducing energy consumption (*See Ref. 12, 13, 65, 69, 71, 73, 74*).
- **Synthetic Biology**: Exploring the potential of engineered microbes for PFAS biodegradation, we aim to turn what seems impossible into a viable solution for long-term remediation.

4. **Substitute:** ***Evaluating Safer Alternatives for a Sustainable Future***

Industries are transitioning to PFAS-free alternatives, but these substitutions require careful evaluation to avoid unintended consequences:

- **Fluorine-Free Foams (F3)**: My group rigorously tests F3 formulations for environmental and health impacts across aquatic ecosystems, soil organisms, and human exposure scenarios (*See Ref. 62, 64, 74, 77, 79*).
- **Biodegradability Testing**: To avoid regrettable substitutions, we conduct studies under various conditions (aerobic, anaerobic, etc.) to understand how these alternatives behave in the environment (*See Ref. 74*).
- **Treatment Feasibility**: We assess whether traditional treatment technologies can handle PFAS-free alternatives or require advanced solutions to ensure safe environmental discharge (*See Ref. 74*).

PUBLICATIONS

Summary: Total Published Peer Reviewed Articles: **86** Times cited: Over **4800** with H-index = **35**
First Author (Co-First Author) Articles: **29** Corresponding Author Articles: **51**
Google Scholar: https://scholar.google.com/citations?user=Ss5MnZUAAAAJ&hl=en

Peer Reviewed Publications (*: Corresponding author)

2025

86. Stavinski N., Sun, R., Arhami A., **Ateia M.*** , Xiao, F., Velarde, L. (2025) Unraveling Hidden Infrared Spectral Signatures in PFAS Thermal Degradation with Two-Dimensional Correlation Spectroscopy. *Environmental Science & Technology Letters*.

85. Butzlaff A., Mezgebe B., Collins A., Lin Z., Lassalle D., Harmody I., Corronell O., Leibfarth F., Dichtel W., Nadagouda M., and **Ateia M.*** (2025) Comparative evaluation of PFAS-selective adsorbents in hard-to-treat residual waste streams. *Chemical Engineering Journal*.

84. Burkhardt J., Speth T., Gorzelnik S., Gorzalski A., Coronell O., El-Khattabi A., and **Ateia M.*** (2025) How Do Novel PFAS Sorbents Fit into Current Engineering Paradigm? *ES&T Engineering*.

83. Penrose M., Deighton J., Glassmeyer S., Bessler S., McKnight T., and **Ateia M.*** (2025) Elevated PFAS Precursors in Septage and Residential Pump Stations. *Environmental Science & Technology Letters*.

82. Junker A., Juve J., Bai L., Christensen C., Ahrens L., Cousins I., **Ateia M.**, and Wei Z. (2025) Best Practices for Experimental Design, Testing and Reporting of Aqueous PFAS-Degrading Technologies. *Environmental Science & Technology*.

81. Didenko T., Lau A., Purohit A., Feng J., Pinkard B., **Ateia M.***, and Novosselov I. (2025) Regeneration of PFAS-laden Granular Activated Carbon by Modified Supercritical CO_2 Extraction. *Chemosphere*.

2024

80. Sun R., Alinezhad A., Altarawned M., **Ateia M.**, Blotevogel J., Mai J., Naidu R., Rappe A., and Xiao F. (2024) New Insights into Thermal Degradation Products of Long-Chain Per-and Polyfluoroalkyl Substances (PFAS) and Their Mineralization Enhancement Using Additives. *Environmental Science & Technology*.

79. Yeardly R., Penrose M., Montoyo P. and **Ateia M.*** (2024) Acute, chronic, and behavioral toxicity of fluorine-free foams to earthworm species *Eisenia fetida* and *Dendrobaena veneta*. *Chemosphere*.

78. Collins A., Krause M., Bessler S., Brougham A., McKnight T., Strock T., and **Ateia M.*** (2024) City-scale Impacts of PFAS from Normal and Elevated Temperature Landfill Leachates on Wastewater Treatment Plant Influent. *Journal of Hazardous Materials Letters*.

77. Niaz K., McAtee D., Adhikari P., Rollefson P., **Ateia M.***, and Abdelmoneim A. (2024) Assessing the Effects of Fluorine-Free and PFAS-Containing Firefighting Foams on Development and Behavioral Responses Using a Zebrafish-Based Platform. *Chemosphere*.

76. Dixit F., Antell E., Faber K., Zhang C., Pannu M., Plumlee M., Buren J., Doroshow A., Pomerantz W., Arnold W., Higgins C., Peaslee G., Cohen L., Sedlak D., and **Ateia M.*** (2024) Closing PFAS Analytical Gaps: Inter-Method Evaluation of Total Organofluorine Techniques for AFFF-Impacted Water. *Journal of Hazardous Materials Letters*.

75. Saha B., **Ateia M.**, Tolaymat T., Fernando S., Varghse J., Xu J., Aich N., Briest J., and Iskender S. (2024) The unique distribution pattern of PFAS in landfill organics. *Journal of Hazardous Materials*.

74. **Ateia M.***, and Scheringer M. (2024) From "Forever Chemicals" to Fluorine-free Alternatives. *Science*. ★

73. Butzlaff A., and **Ateia M.*** (2024) Key Engineering Design Aspects of Photo-assisted Electrochemical Reactors for Water Treatment. *Chem Catalysis*.

72. **Ateia M.***, and Butzlaff A. (2024) Photoelectrode Materials for Photo-assisted Electrochemical Water Treatment. *Chem Catalysis*.

71. Juve J., Gonzalez X., Bai L., Xie Z., Shang Y., Saad A., Wong M., **Ateia M.**, and Wei Z. (2024) Size-selective trapping and photocatalytic degradation of PFOA in Fe-modified zeolite frameworks. *Applied Catalysis B: Environment and Energy*.

70. Gaballah M., Guo J., Mahmooh A., Sobhi M., **Ateia M.,** Ghorab M., Zheng Y., and Dong R. (2024) Degradation and removal mechanisms of mixed veterinary antibiotics in swine manure during anaerobic and storage treatments: Validation and characterization. *Journal of Water Process Engineering*.

69. Guo Z., Wang T., Ichiyanagi H., **Ateia M.,** Chen G., Wang J., Fujii M., En K., Li T., Sohrin R., and Yoshimura C. (2024) Photo-Production of Excited Triplet-State of Dissolved Organic Matters in Inland Freshwater and Coastal Seawater. *Water Research*.

68. Saha B., **Ateia M.**, Fernando S., Xu J., DeSutter T., and Iskender S. (2024) PFAS occurrence and distribution in yard waste compost indicate potential volatile loss, downward migration, and transformation. *Environmental Science: Processes Impacts*.

67. **Ateia M.***, Wei H., and Andreescu S. (2024) Sensors for Emerging Water Contaminants: Overcoming Roadblocks to Innovation. *Environmental Science & Technology*.

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66. Lin Z., Shapiro E., Gaisin A., **Ateia M.**, Helbling D., Gwinn R., Packman A., Dichtel W. (2023) Trace Organic Contaminant Removal from Municipal Wastewater by Styrenic β-Cyclodextrin Polymers. *Environmental Science & Technology*.

65. Juve J., Reece J., Wong M., Wei Z., and **Ateia M.*** (2023) Photocatalysts for Chemical-Free PFOA Degradation – What we know and where we go from here? *Journal of Hazardous Materials*.

64. **Ateia M.***, Sigmund G., Bentel M., Washington J., Lai A., Merrill N., and Wang Z. (2023) Integrated Data-Driven Cross-Disciplinary Framework to Prevent Chemical Water Pollution. *One Earth*.

63. Juve J., Wang B., Wong M., **Ateia M.**, and Wei Z. (2023) Complete defluorination of per-and polyfluoroalkyl substances—dream or reality? *Current Opinion in Chemical Engineering*.

62. **Ateia M.***, Van Buren J., Barrett W., Martin T., and Back J. (2023) Sunrise of PFAS Replacements – A Perspective on Fluorine-free Foams. *ACS Sustainable Chemistry & Engineering*.

61. **Ateia M.***, Chiang D., Cashman M., and Acheson C. (2023) Total Oxidizable Precursor (TOP) Assay─Best Practices, Capabilities and Limitations for PFAS Site Investigation and Remediation. *Environmental Science & Technology Letters*.

60. Yusuf K., Natraj A., Li K., **Ateia M.**, AlOthman Z., and Dichtel W. (2023) Inverse Gas Chromatography Demonstrates the Crystallinity-Dependent Physicochemical Properties of Two-Dimensional Covalent Organic Framework Stationary Phases. *Chemistry of Materials*.

59. Collins A., **Ateia M.**, Bhagat K., Ohno T., Perreault F., and Apul O. (2023) Microplastic-Based Leachate Formation: The Extent, Characteristics and Formation Mechanisms under UV Irradiation. *RSC Environmental Science: Water Research & Technology*.

58. Hue R., Wai M., Siev S., Ann V., **Ateia M.***, and Yoshimura C. (2022) Dissolved silicon in a lake-floodplain system: Dynamics and its role in primary production. *Science of The Total Environment*.

2022

57. Verma S., Lee T., Sahle-Demessie E., **Ateia M.**, and Nadagouda M. (2022) Recent Advances on PFAS Degradation via Thermal and Nonthermal Methods. *Chemical Engineering Journal Advances*.

56. Nighojkar A., Zimmermann K., **Ateia M.**, Barbeau B., Mohseni M., Dixit F., and Kandasubramanian B. (2022) Application of neural network in metal adsorption using biomaterials (BMs): A review. *Environmental Science: Advances*.

55. Natraj A., Ji W., Xin J., Castano I., Burke D., Evans A., **Ateia M.**, Hamachi L., Yusuf K., and Dichtel W. (2022) Single-Crystalline Imine-Linked Two-Dimensional Covalent Organic Frameworks Separate Benzene and Cyclohexane Efficiently. *Journal of the American Chemical Society*.

54. Trang B., Li Y., Xue X., **Ateia M.**, Houk K., Dichtel W. (2022) Low-temperature mineralization of perfluorocarboxylic acids. *Science*. ★

53. Arabkhani P., Asfaram A., Aghaei-Jazeh M., **Ateia M.*** (2022) Plant-mediated green synthesis of nanocomposite-based multifunctional adsorbent with antibacterial activity and high removal efficiency of micropollutants from contaminated waters. *Journal of Water Process Engineering*.

52. Wang M., **Ateia M.***, Hatano Y., and Yoshimura C. (2022) Regrowth of Escherichia coli in environmental waters after chlorine disinfection: Shifts in viability and culturability. *RSC Environmental Science: Water Research & Technology*.

51. Mousa H.M., Fahmy H., Ali G.A., Abdelhamid H.N., and **Ateia M.** (2022) Membranes for Oil/Water Separation: A Review. *Advanced Materials Interfaces*.

50. Wang R., Lin Z.W., Klemes M.J., **Ateia M.**, Trang B., Wang J., Ching C., Helbling D.E., Dichtel W. R. (2022) A Tunable Porous β-Cyclodextrin Polymer Platform to Understand and Improve Anionic PFAS Removal. *ACS Central Science*.

49. Roy I., Evans A., Das P. J., **Ateia M.**, Ryder M. R., Jones L. O., Kazem-Rostami M., Goswami S., Beldjoudi Y., Shen D., Schatz G. C., Hupp J. T., Dichte W. R., and Stoddart J. F. (2022) Cyclophane-based two-dimensional polymer formed by an interfacial click reaction. *Cell Reports Physical Science*.

48. **Ateia M.***, Ersan G., Gar M., Boffito DC. and Karanfil T. (2022) Microplastics Sources, Fate, Toxicity, Detection, and Interactions with Micropollutants in Aquatic Ecosystems – A Review of Reviews. *Environmental Science: Processes & Impacts*.

47. Gudda F. O., **Ateia M.**, Waigi M. G., Wang J., Gao Y. (2022) Ecological and human health risks of manure-borne steroid estrogens: A 20-year global synthesis study. *Journal Environmental Management*.

46. Wang M., **Ateia M.***, Hatano Y., Miyanaga K., and Yoshimura C. (2022) Novel Fluorescence-Based Method for Rapid Quantification of Live Bacteria in River Water and Treated Wastewater. *Environmental Science: Advances*.

2021

45. **Ateia M.***, Skala L., Yang A., Dichtel W. R. (2021) Product Analysis and Insight into the Mechanochemical Destruction of Anionic PFAS with Potassium Hydroxide. *Journal of Hazardous Materials Advances*.

44. **Ateia M.*** (2021) Living with Eight Decades of PFAS Contamination ― What is known and what is unknown. [Scientific Opinion, Non-Peer Reviewed]. *IDA Global Connections* - Summer 2021 Issue - Pages 34-37.

43. Yu W., Veld M., Bossi R., **Ateia M.***, Tobler D., Feilberg A., Bovet N., and Johnson M. (2021) Formation of Formaldehyde and Other Byproducts by TiO2 Photocatalyst Materials. *Sustainability*.

42. Yu W., Chen J., **Ateia M.***, Cates E., and Johnson M. (2021) Do Gas Nanobubbles Enhance Aqueous Photocatalysis? Experiment and Analysis of Mechanis. *Catalysts*.

41. Arabkhani P., Javadian H., Asfaram A., and **Ateia M.*** (2021) Decorating graphene oxide with zeolitic imidazolate framework (ZIF-8) and pseudo-boehmite offers ultra-high adsorption capacity of diclofenac in hospital effluents. *Chemosphere*.

40. Awfa D., **Ateia M.*,Ø**, Mendoza D., Yoshimura C. (2021) Application of QSPR Predictive Models in Water Treatment: A Critical Review. *Environmental Science & Technology Water*.

2020

39. Wang M., **Ateia M.***, Awfa D., and Yoshimura C. (2020) Regrowth of Bacteria after Light-based Disinfection – What do we know and where do we go from here. *Chemosphere*.

38. **Ateia M.***, Helbling D., and Dichtel W. (2020) Best Practices for Evaluating New Materials as Adsorbents for Water Treatment. *ACS Materials Letters*.

37. Dees J., **Ateia M***, and Sanchez D. (2020) Microplastics and their Degradation Products in Surface Waters – A Missing Piece of the Global Carbon Cycle Puzzle. *Environmental Science & Technology Water*. (Scientific Opinion, Non-Peer Reviewed).

36. Qanbarzadeh M., Wang D., **Ateia M.**, Sahu S., Cates E. L. (2020) Impacts of Reactor Configuration, Degradation Mechanisms, and Water Matrices on PFCA Treatment Efficiency by the UV/$Bi_3O(OH)(PO_4)_2$ Photocatalytic Process. *Environmental Science & Technology Engineering*.

35. Thengane T., Kung K., Gupta A., **Ateia M**., Sanchez D., et al. (2020) Oxidative torrefaction for cleaner utilization of biomass for soil amendment. *Cleaner Engineering and Technology*.

34. Arabkhani P., Asfaram A., and **Ateia M.*** (2020) Facile Preparation of graphene oxide/sodium montmorillonite nanocomposite adsorbent for water treatment application. *Journal of Water Process Engineering*.

33. Klemes M., Sakala L., **Ateia M.**, Trang B., Helbling D., and Dichtel W. (2020) Polymerized Molecular Receptors as Adsorbents to Remove Micropollutants from Water. *Accounts of Chemical Research*.

32. Erdem C. U., **Ateia M.**, Liu C., Karanfil T. (2020) Activated carbon and organic matter characteristics impact the adsorption of DBPs precursors when chlorine is added prior to GAC contactors. *Water Research*.

31. Heu R., **Ateia M.***, and Yoshimura C. (2020). Photocatalytic Nanofiltration Membrane using Zr-MOF/GO Nanocomposite with High-Flux and Anti-Fouling Properties. *Catalysts Journal*.

30. Heu R., **Ateia M.***, Awfa D., Punyapalakul P., and Yoshimura C. (2020). Photocatalytic Degradation of Organic Micropollutants in Water by Zr-MOF/GO Composites. *Journal of Composites Science*.

29. **Ateia M.***, Kanan A., Karanfil T. (2020) Microplastics Release Precursors of Chlorinated and Brominated Disinfection Byproducts in Water. *Chemosphere*.

28. **Ateia M.***, Zheng T., Calace S., Tharayil N., Srikanth P., and Karanfil T. (2020) Sorption Behavior of Real Microplastics (MPs): Insights for Organic Micropollutants Adsorption on a Large Set of Well-characterized MPs. *Science of the Total Environment*.

27. Mousa H., Alfadhel H., **Ateia M.**, Gomaa A., Abdel-Jaber G. (2020). Polysulfone-Iron Acetate/Polyamide Nanocomposite Membrane for Oil-Water Separation. *Environmental Nanotechnology, Monitoring & Management*.

26. Awfa D., **Ateia M.***, Fujii M., and Yoshimura C. (2020). Photocatalytic degradation of organic micropollutants: Inhibition mechanisms by different fractions of natural organic matter. *Water Research*.

25. Bravo I., Figueroa F., Swasy M., **Ateia M.**, Attia M. F., et al., (2020). Cellulose particles capture aldehyde VOC pollutants. *RSC Advances*.

24. Khalid A., Rowles L., **Ateia M.**, Minhao X., Moses I., Bello D., Karanfil T., Saleh N., and Apul O. (2020). Mesoporous Activated Carbon Shows Superior Adsorption Affinity for 11-Nor-9-Carboxy-Δ9-Tetrahydrocannabinol in Water. *NPJ Clean Water*.

23. Attia M., Swasy S., **Ateia M.**, Whithead D., and Alexis F. (2020). Periodic mesoporous organosilica nanomaterials for rapid capture of VOCs. *RSC ChemComm*.

22. Soyluoglu M., Ersan M., **Ateia M.**, and Karanfil T (2020) Removal of Bromide from Natural Waters using a Bromide-Selective Ion Exchange Resin. *Chemosphere*.

2019

21. **Ateia M.***, Alsbaiee A., Karanfil T., and Dichtel W. (2019). Efficient PFAS Removal by Amine-functionalized Sorbents: Critical Review of the Current Literature. *Environmental Science & Technology Letters*.

20. Ateia M.*, Gar Alalm M., Awfa D., Johnson M., Yoshimura C. (2019) Modeling the Degradation and Disinfection of Water Pollutants by Photocatalysts and Composites: A Critical Review. *Science of the Total Environment*.

19. **Ateia M.**, Arifuzzaman MD., Pellizzeri S., Attia M. F., Tharayil N., Anker J. N., and Karanfil T. (2019). Cationic Polymer for Selective Removal of GenX and Short-chain PFAS from Surface Waters and Wastewaters at ng/L Levels. *Water Research*.

18. Shimizu Y., **Ateia M.*,** Wang M., Awfa D., Yoshimura C. (2019) Disinfection Mechanism of E. Coli by CNT-TiO2 Composites: Photocatalytic Inactivation vs. Physical Separation. *Chemosphere*.

17. Awfa D., **Ateia M.***, Fujii M., and Yoshimura C. (2019) A Novel Magnetic Carbon Nanotube-TiO2 Composites for Solar Light Photocatalytic Degradation of Pharmaceuticals in the Presence of Natural Organic Matter. *Journal of Water Process Engineering*.

16. **Ateia M.**, Cagri U., Ersan M., Ceccato M., and Karanfil T. (2019) Selective Removal of Bromide and Iodide from Natural Waters using a Novel AgCl-SPAC Composite at Environmentally Relevant Conditions. *Water Research*.

15. Ateia M., Maroli A., Thiraly N., and Karanfil T. (2019) The Overlooked Short- and Ultrashort-Chain Poly- and Perfluorinated Substances: A Review. *Chemosphere*.

2018

14. **Ateia M.***, Attia M., Maroli A., Thiraly N., Whithead D., Alexis F., and Karanfil T. (2018) Rapid Removal of Poly- and Perfluorinated Alkyl Substances by Polyethylenimine-functionalized Cellulose Microcrystals at Environmentally Relevant Conditions. *Environmental Science & Technology Letters*.

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7. **Ateia M.**, Ran J., Fujii M., & Yoshimura C. (2017) The Relationship between Molecular Composition and Fluorescence Properties of Humic Substances. *Int. J. Environ. Sci. Technol.* doi:10.3390/w8100461

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5. Ateia M.*, Nasr, M.; Ikeda, A.; Okada, H.; Fujii, M.; Natsuike, M.; Yoshimura, C. (2016) Nonlinear Relationship of Near-bed Velocity and Growth of Riverbed Periphyton. *Water*, 8: 461.

4. **Ateia M.***, Yoshimura C., and Nasr M. (2016) In-situ Biological Water Treatment Technologies for Environmental Remediation: A Review. *J Bioremediation & Biodegradation* 7: 348.

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3. **Ateia M.***, Nasr, M., Yoshimura, C., & Fujii, M. (2015). Organic matter removal from saline agricultural drainage wastewater using a moving bed biofilm reactor. *Water Science & Technology*.

2. Nasr, M., **Ateia M.**, & Hassan, K. (2015). Artificial intelligence for greywater treatment using electrocoagulation process. *Separation Science and Technology*.

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1. Al-Amoud, A., Mattar, M., & **Ateia M.** (2014). Impact of water temperature and structural parameters on the hydraulic labyrinth-channel emitter performance. Spanish Journal of Agricultural Research.

KEYNOTES & INVITED TALKS

2025

1. **March 4, 2025:** Invited Speaker, Qatar Environment and Energy Research Institute, Doha.
2. **February 28, 2025:** Invited Seminar, Department of Chemistry and Biochemistry, UT Dallas.
3. **January 15, 2025:** Invited Talk, Discuss updates on regeneration of PFAS-laden spent sorbents, Tucson Airport Remediation Project.

2024

1. **December 18, 2024:** Invited Speaker, Environmental Science Seminars, Florida International University.
2. **December 11, 2024:** Invited Panelist, two panels discussing both PFAS treatment and PFAS-free alternatives, Environmental Analyst Conference.

3. **December 4, 2024:** Chair and Organizer, Next Generation Sustainable Firefighting Technologies at the DoD Energy and Environment Innovation Symposium.
4. **November 1, 2024**: Invited Panelist at the *PFAS and Biosolids* panel discussion organized by AAAS's Center for Scientific Evidence in Public Issues.
5. **October 15, 2024**: Invited Speaker and Session Chair at REMTECH 2024, focusing on PFAS analysis and remediation sessions.
6. **October 22, 2024**: Presentation on PFAS in landfill leachate and PFAS-free alternatives at SETAC North America.
7. **September 18, 2024**: Keynote Lecture at *The International Conference on Emerging Trends in Water Treatment (ETWT-2024)* in Mikkeli, Finland.
8. **September 5, 2024**: Keynote Lecture at the *Great Plains PFAS Initiative & Symposium & Workshop 2024* in Nebraska.
9. **August 12, 2024**: Invited Talks and Panel Discussions at the *IWA World Water Congress*, covering PFAS treatment and PFAS-free alternatives.
10. **June 28, 2024**: Invited Seminar at Arizona State University, *NEWT Center (Nanosystems ERC for Nanotechnology-Enabled Water Treatment)*.
11. **May 24, 2024**: Keynote Lecture at the *41st Annual Chemistry Graduate Student Symposium* at the University at Buffalo.
12. **March 13, 2024**: Invited Seminar at the University of Texas at Austin.
13. **March 12, 2024**: Panelist at SXSW, *Eliminating 'Forever Chemicals' from the World's Water*.
14. **January 13, 2024**: Invited Talk (in Arabic) on PFAS Contaminants in Water.

2023

1. **December 5, 2023**: Invited Talk at *Desalytics Water Week* in Dubai, UAE.
2. **December 6, 2023**: Invited Talk at *PFAS+ Initiative* at the University of Maine.
3. **November 7, 2023**: Invited Colloquium at Wageningen University, Netherlands.
4. **November 6, 2023**: Panelist at *Aquatech Innovation Forum Workshop*: *Piecing together the PFAS puzzle*.
5. **October 6, 2023**: Keynote Lecture at the *New York State's Center of Excellence in Healthy Water Solutions Workshop*: *Advances in PFAS: Challenges and Opportunities*.

2022

1. **October 19, 2022**: Invited Talk at the *American Water Works Association (AWWA) Annual Conference* on PFAS remediation technologies.
2. **September 14, 2022**: Keynote Presentation at the *International Water Association (IWA) PFAS Specialty Conference* in Brisbane, Australia.
3. **May 20, 2022**: Panel Discussion at the *Environmental Science & Technology Webinar* on PFAS-free alternatives in firefighting foams.
4. **March 25, 2022**: Invited Lecture at the *University of Michigan Water Institute*: *Emerging Contaminants in the Era of Sustainability*.

2021

1. **December 7, 2021**: Invited Talk at the *World Congress on Sustainable Environmental Solutions*: *Beyond PFAS: Tackling the Next Generation of Emerging Contaminants*.
2. **November 12, 2021**: Panelist at the *DOE Environmental Research Seminar Series* on advanced materials for water remediation.
3. **September 29, 2021**: Keynote at the *International PFAS Conference* in Utrecht, Netherlands: *Evaluating PFAS Destruction Technologies*.
4. **June 10, 2021**: Invited Talk at the *Northwestern Chemistry Seminar Series*: *Selective Adsorbents for Emerging Contaminants*.

2020

1. **December 8, 2020**: Panel Discussion at the *Global PFAS Forum* on addressing PFAS contamination in the U.S.
2. **October 15, 2020**: Invited Talk at the *American Chemical Society (ACS) Fall Meeting*: *Bridging Chemistry and Engineering for Environmental Challenges*.
3. **September 20, 2020**: Guest Lecture at the *Clemson University Environmental Engineering Colloquium*: *PFAS-Free Foams and Their Impacts*.
4. **June 23, 2020**: Webinar for the *International Water Resources Association (IWRA)*: *PFAS in Drinking Water: Challenges and Opportunities*.

MEDIA COVERAGE & PUBLIC ENGAGEMENTS

2024

1. **July 20 & 21, 2024**: TV Interviews (In Arabic) discussing PFAS and their alternatives.
2. **July 18, 2024**: Research Highlight in Rice University News: "Rice researcher calls for safer PFAS-free alternatives."
3. **July 19, 2024**: Featured in Food Packaging Forum: "Science Perspective: From 'Forever Chemicals' to Fluorine-Free Alternatives."
4. **July 18, 2024**: Quoted in The Hill: "Ditching PFAS chemicals requires reality check, scientists argue."
5. **July 1, 2024**: Guest on Isle Global's Water Action Platform Podcast: "Tackling PFAS Pollution."
6. **June 1, 2024**: Appointed as Advisory Board Member for Chemical & Engineering News (C&EN).
7. **March 14, 2024**: Interviewed by The Hill: "How to protect yourself from 'forever chemicals'."
8. **March 11, 2024**: Participated in Axios Roundtable Discussion on Sustainability & Circular Economy.
9. **March 12, 2024**: Panelist at SXSW: "Eliminating 'Forever Chemicals' from the World's Water."

2023

1. **November 6, 2023**: Panelist at Aquatech Innovation Forum Workshop: "Piecing together the PFAS puzzle."

2. **October 6, 2023**: Keynote Lecture at New York State's Center of Excellence in Healthy Water Solutions Workshop: "Advances in PFAS: Challenges and Opportunities."
3. **October 20, 2023**: Moderator for NIEHS Superfund Research Program session: "Tools for PFAS Site Characterization."
4. **November 1, 2023**: Interview on The Infrastructure Show Podcast with Professor Joseph Schofer of Northwestern University.

MENTORING & SUPERVISION ACTIVITIES

Throughout my career, I have been dedicated to mentoring and supervising students and early-career researchers, fostering their development in environmental science and engineering. My mentees have engaged in diverse research topics, contributing to advancements in water treatment technologies and environmental sustainability.

Current Group Members at the US Environmental Protection Agency (US EPA):

1. **Dr. Ashley Butzlaff**
   Topics: PFAS Adsorption and Degradation
   Position: Federal Postdoctoral Researcher, US EPA-ORD
2. **Dr. Bineyam Mezgebe**
   Topics: PFAS Adsorption
   Position: Environmental Engineer, US EPA-ORD
3. **Mr. Ashton Collins**
   Topics: PFAS Adsorption and Degradation
   Position: ORISE Participant, US EPA-ORD
4. **Dr. Michael Penrose**
   Topics: Biodegradation of PFAS and PFAS-free Alternatives
   Position: ORISE Postdoctoral Researcher, US EPA-ORD
5. **Dr. Tin Le**
   Topics: Novel Regeneration Methods for Sorbents
   Position: ORISE Postdoctoral Researcher, US EPA-ORD
6. **Ms. Natalie Wehrle**
   Topics: Spent Media Management
   Position: ORISE Postdoctoral Researcher, US EPA-ORD

Former Group Members at US EPA (Group Alumni):

1. **Ms. Paola Rodriguez Montoyo**
   Topics: PFAS Alternatives
   Position during Mentorship: Intern, US EPA-ORD
   Current Position: Student, The University of Puerto Rico
2. **Ms. Dyandra Lassalle-Vega**
   Topics: PFAS Adsorption
   Position during Mentorship: Intern, US EPA-ORD
   Current Position: Student, The University of Puerto Rico
3. **Mr. Elijah Dennis**
   Topics: PFAS Degradation
   Position during Mentorship: Intern, US EPA-ORD
   Current Position: Student, Albany State University
4. **Mr. Michael Abebe**
   Topics: Biodegradation of PFAS-free Alternatives
   Position during Mentorship: Intern, US EPA-ORD
   Current Position: Student, Albany State University
5. **Mr. Bailey Gray**
   Topics: Novel Regeneration Methods for Sorbents
   Position during Mentorship: Intern, US EPA-ORD
   Current Position: Student, Albany State University

Mentored Students Prior to Joining US EPA:

1. **Dr. Dion Awfa**
   Institution: Tokyo Institute of Technology
   Topics: Photocatalysis & Micropollutants
   Current Position: Faculty Member, Institut Teknologi Sumatera, Indonesia
2. **Mr. Yuta Shimizu**
   Institution: Tokyo Institute of Technology

Topics: Carbon Nanotubes & Natural Organic Matter
Current Position: Environmental Engineer, Swing Corporation, Japan

3. **Ms. Sayako Shoda**
Institution: Tokyo Institute of Technology
Topics: Carbon Nanotubes & Natural Organic Matter
Current Position: Environmental Engineer, Swing Corporation, Japan

4. **Dr. Rina Heu**
Institution: Tokyo Institute of Technology
Topics: MOFs & Membranes
Current Position: Faculty Member, Institute of Technology of Cambodia

5. **Dr. Manna Wang**
Institution: Tokyo Institute of Technology
Topics: Photolysis & Disinfection
Current Position: Environmental Engineer, Swing Corporation, Japan

6. **Ms. Astri Muflihah**
Institution: Tokyo Institute of Technology
Topics: Carbon Nanotubes & Natural Organic Matter
Current Position: Graduate Student, Institut Teknologi Sumatera, Indonesia

7. **Mr. Mojtaba Qanbarzadeh**
Institution: Clemson University
Topics: Photocatalysis & PFAS
Current Position: Graduate Student, Clemson University, USA

8. **Ms. Paige Taber**
Institution: Clemson University
Topics: Coagulation & Landfill Leachate
Current Position: Environmental Engineer, Milliken & Company, USA

9. **Dr. Cagri Utku Erdem**
Institution: Clemson University
Topics: Carbon Composites & DBPs
Current Position: Postdoctoral Researcher, Clemson University, USA

10. **Dr. Meryem Soyluoglu**
Institution: Clemson University
Topics: IX Resins & DBPs
Current Position: Postdoctoral Researcher, Clemson University, USA

11. **Mr. Esat Ariturk**
Institution: Clemson University
Topics: Carbon Composites & Taste and Odor
Current Position: Graduate Student, Middle East Technical University, Turkey

12. **Ms. Stefania Calace**
Institution: Clemson University
Topics: Microplastics
Current Position: Environmental Engineer, Edoardo Raffinerie Garrone, Italy

13. **Dr. Brittany Trang**
Institution: Northwestern University
Topics: PFAS Degradation
Current Position: Scientific Reporter, STAT News, USA

14. **Mr. Zhi Lin**
Institution: Northwestern University
Topics: PFAS Adsorption
Current Position: Graduate Student, Northwestern University, USA

Dissertation Committee Member

1. **Biraj Saha**, North Dakota State University (Advisor: Dr. Syeed Iskender)
Dissertation Topic: PFAS removal from landfill leachate using hybrid treatment technologies.

2. **Benjamin Kienzle**, University of Texas at Austin (Advisor: Dr. Pawel Misztal)
Dissertation Topic: Emissions and degradation pathways of PFAS in natural environments.

SERVICES AND PROFESSIONAL ACTIVITIES

Editorial and Advisory Roles

- **Editorial Advisory Board Member**, *Environmental Science & Technology Letters* (*ES&T Letters*) (2025–Present): Providing strategic guidance and insight to advance the journal's mission of publishing cutting-edge research in environmental science and technology.

- **Advisory Board Member**, *ACS Chemical & Engineering News* (2024–Present): Offering expertise to shape editorial policies and ensure high-quality coverage of developments in chemistry and related fields.

Technical and Leadership Roles

- **Technical Committee Member**, DoD's SERDP-ESTCP Program (2023–Present): Evaluating and guiding research initiatives on environmental restoration and sustainable infrastructure to address critical challenges in defense-related environmental programs.
- **Organizer & Host**, *Innovation in Environmental Science Seminar Series* (2021–Present): Curating and moderating seminars featuring distinguished researchers to foster collaboration and innovation across environmental science disciplines.
- **Mentor**, *The Rural Water Supply Network (RWSN)* (2020–2021): Mentored international early-career researchers under a program supported by the Swiss Agency for Development Cooperation (SDC) and The World Bank.

University and NGO Leadership

- **President**, Clemson University Postdoc Association (CUPDA) (2019): Led initiatives to support postdoctoral researchers, fostering professional development and collaboration.
- **Vice President**, Clemson University Postdoc Association (2018–2019): Co-led the association, organizing events and providing resources to enhance postdoc experiences.
- **Co-Founder**, *BENAA Association* (2015–2021): Established an international NGO focused on sustainable development, headquartered in Egypt and Switzerland.

Training and Outreach

- **Mentor**, *Minority Science and Engineering Improvement Program*, *The U.S. Department of Education* (2022 – Current): Hosted and trained undergraduate students from predominantly minority institutions.
- **Discussion Leader**, *The Graduate School Experience: What to Expect* Workshop, ACS National Meeting, Orlando, FL (2019): Guided graduate students on navigating graduate school and professional development.
- **Trainer**, *Tips for Effective Communications & Collaborations* Workshop, GRAD360, Clemson University (2019): Delivered impactful training sessions on professional communication skills.
- **Trainer**, *Life After Ph.D.* Workshop, GRAD360 Program, Clemson University (2018): Prepared graduate students for academic and industry careers.
- **Speaker**, TEDxTitech, Tokyo, Japan (2017): Delivered an inspiring talk titled *Pause .. Rethink* on reimagining career pathways and global challenges.

Judging and Reviewing Activities

- **Judge**, *6th Annual Summer Undergraduate Research Symposium*, Clemson University (2018): Evaluated and provided feedback on undergraduate research projects.
- **Reviewer**: Peer reviewer for leading journals, including *Water Research*, *Environmental Science & Technology*, *ES&T Letters*, *Advanced Functional Materials*, *ACS Applied NanoMaterials*, *Chemosphere*, *Science of the Total Environment*, *Journal of Hazardous Materials*, and others.

Professional Memberships

- Member, *American Chemical Society* (Environmental Chemistry Division).
- Member, *Association of Environmental Engineering and Science Professors* (AEESP).
- Member, *American Association for the Advancement of Science* (AAAS).