

Yang Wang
Associate Professor
Department of Chemical, Environmental and Materials Engineering
University of Miami, Coral Gables, Florida
1201 Memorial Drive, FL 33124
Email: yangwang@miami.edu
Research Website: <https://pmtl.coe.miami.edu>

EDUCATION

2012/08 – 2017/05 Ph.D. Department of Energy, Environmental, and Chemical Engineering,
Washington University in St. Louis, St. Louis, Missouri
2008/09 – 2012/07 B.S. Department of Thermal Engineering, Tsinghua University, Beijing, China

PROFESSIONAL APPOINTMENT

2026/06 – present	Associate Professor	Department of Chemical, Environmental and Materials Engineering, University of Miami, Coral Gables, Florida
2022/05 – 2026/05	Assistant Professor	Department of Chemical, Environmental and Materials Engineering, University of Miami, Coral Gables, Florida
2020/12 – 2022/05	Assistant Professor (joint appointment)	Department of Chemistry, Missouri University of Science and Technology, Rolla, Missouri
2019/08 – 2022/05	Assistant Professor	Department of Civil, Architectural and Environmental Engineering, Missouri University of Science and Technology, Rolla, Missouri
2017/06 – 2019/08	Research Associate	Brookhaven National Laboratory, Upton, New York Supervisor: Jian Wang
2012/08 – 2017/05	Graduate Research Assistant	Washington University in St. Louis, St. Louis, Missouri Dissertation: “Sub-2 nm particle characterization in systems with aerosol formation and growth” Advisor: Pratim Biswas
2010/08 – 2012/08	Undergraduate Research Assistant	Tsinghua University, Beijing, China Dissertation: “Swirl flame synthesis of TiO ₂ nanoparticles for fabrication of dye-sensitized solar cells”. Advisor: Shuiqing Li

RESEARCH INTERESTS

- Early stages of aerosol formation
- Aerosol and air quality
- Aerosol-cloud interaction
- Health effects of airborne particles
- Combustion synthesis of nanoparticles

RESEARCH

PEER REVIEWED JOURNAL PUBLICATIONS

*Corresponding author, supervised graduate student or postdoctoral scholar

69. [Varuni Abhayaratne](#),¹ [Weixing Hao](#),¹ [Chen Ye](#), Anjana Yatawara, Philip K. Hopke, Jiayu Li, and **Yang Wang*** (2026). “Evaluating Fine-Scale Air Quality Heterogeneity Using a Low-Cost Multi-pollutant Sensor (LCS) Network in Twin Cities, Minnesota.” *Environ. Sci. Technol. Air.* 3(4): 1057-1068 (¹equal contribution)

68. Manisha Mehra, **Yang Wang***, Chanakya Bagya Ramesh, Ruoyu Zhang, Jiaoshi Zhang, Scott E. Giangrande, Jian Wang (2026). "Deep convection-driven downward transport of trace gases and aerosols from the free troposphere to the boundary layer." *Geophys. Res. Lett.* 53(4), e2025GL119490.
67. Caroline O'Neil , Jiayu Li, Meghan A. Wallace, Ramesh Raliya, **Yang Wang**, Anna Leavey, Bricker , Carey-Ann D. Burnham, Adrianus CM Boon, Pratim Biswas, Hilary Babcock (2026). "Characterization of aerosols generated during suspected Aerosol-Generating Procedures in Healthcare Settings." *Antimicrob. Steward. Healthc. Epidemiol.* 6(1): e151.
66. Chanakya Bagya Ramesh, Frank Daoru Han, and **Yang Wang*** (2026). "Nascent Titanium/Silicon-Containing Particle Formation in Corona Discharge Assisted Combustion." *Aerosol Res. Accepted*. doi: 10.5194/ar-2025-41
65. Weixing Hao, Manisha Mehra, Gaurav Budhwani, T. C. Chakraborty, Fan Mei*, and **Yang Wang*** (2026). "Employing machine learning for new particle formation identification and mechanistic analysis: Insights from a six-year observational study in the Southern Great Plains." *J. Geophys. Res. Atmos.* 131(1): e2024JD043116.
64. Nana A.Amoah, Mirza Muhammad Zaid, Xiaosong Du, **Yang Wang**, and Guang Xu (2025). "Smart sensors, smart calibration: Applications in machine learning for coal dust monitoring." *Green Smart Mining Eng.* 2(3): 301-312.
63. Kapiamba Kashala Fabrice, Hsin-Yin Chuang, Weixing Hao, Ta-Chun Lin, Lung-Chi Chen, Yue-Wern Huang, and **Yang Wang*** (2025). "Evaluating the Toxicity of Electronic Cigarette Aerosols for Firsthand and Secondhand Exposure Under Different Device Operating Conditions." *Chem. Res. Toxicol.* 38(8): 1344-1356.
62. Marcus Oliveira, **Yang Wang***, Manisha Mehra, Damao Zhang, Steven J. Abel, Paquita Zuidema (2025). "New particle formation events over the Southeast Atlantic coincide with the African biomass burning season." *Geophys. Res. Lett.* 52: e2024GL113235.
61. Kapiamba Kashala Fabrice, Steven Achterberg, Ta-Chun Lin, Philip D. Whitefield, Yue-Wern Huang, and **Yang Wang*** (2025). "Characterizing the transient emission of particles and gases from a single puff of electronic cigarette smoke." *Chem. Res. Toxicol.* 38(2): 270-280.
60. Kashala Fabrice Kapiamba, Stephen Yaw Owusu, Yangtao Wu, Yue-Wern Huang, Yi Jiang, and **Yang Wang*** (2024). "Examining the oxidation states of metals in aerosols emitted by electronic cigarettes." *Chem. Res. Toxicol.* 37(7): 1113-1120.
59. Chanakya Bagya Ramesh and **Yang Wang*** (2024). "Ions Generated from a Premixed Methane-Air Flame: Mobility Size Distributions and Charging Characteristics." *Combust. Sci. Technol.* 196 (16): 4041-4056
58. Weixing Hao, Yue-Wern Huang, **Yang Wang*** (2024). "Bioaerosol size as a potential determinant of airborne E. coli viability under ultraviolet germicidal irradiation and ozone disinfection." *Nanotechnology*. 35(14): 145702
57. Yanxiao Li, Zhekun Peng, Jiaoli Li, Congjie Wei, Shangbin Liu, Weixing Hao, Huanyu Cheng, Casey Burton, **Yang Wang**, Yue-Wern Huang, Chang-Soo Kim, Fang Yao Stephen Hou, DongHyun Kim, Chenglin Wu (2024). "Wearable MXene-Graphene Sensing of Influenza and SARS-CoV-2 Virus in Air and Breath: From Lab to Clinic." *Adv. Mat. Technol.* 9(3): 2201787.
56. Xianda Gong, **Yang Wang**, Hua Xie, Jiaoshi Zhang, Zheng Lu, Robert Wood, Frank Stratmann, Heike Wex, Xiaohong Liu, Jian Wang (2023). "Maximum supersaturation in the marine boundary layer clouds over the North Atlantic" *AGU Adv.* 4: e2022AV000855.
55. Mirza Muhammad Zaid, Nana Amoah, Ashish Kakoria, **Yang Wang**, Guang Xu (2023). "Advancing occupational health in mining: investigating low-cost sensors suitability for improved coal dust exposure monitoring." *Meas. Sci. Technol.* 35: 025128
54. Weixing Hao, Fan Mei, Susanne Hering, Steven Spielman, Beat Schmid, Jason Tomlinson, **Yang Wang*** (2023). "Mapping the performance of a versatile water-based condensation particle counter (vWCPC) with numerical simulation and experimental study." *Atmos. Meas. Tech.* 16(17): 3973-3986.

53. Qian Xiao, Jiaoshi Zhang, **Yang Wang**, Luke D. Ziemba, Ewan Crosbie, Edward L. Winstead, Claire E. Robinson, Joshua P DiGangi, Glenn S Diskin, Jeffrey S Reid, K Sebastian Schmidt, Armin Sorooshian, Miguel Ricardo A Hilario, Sarah Woods, Paul Lawson, Snorre A Stamnes, Jian Wang (2023). “New Particle Formation in the Tropical Free Troposphere during CAMP²Ex: Statistics and Impact of Emission Sources, Convective activity, and Synoptic Condition.” *Atmos. Chem. Phys.* (2023): 9853-9871.
52. **Yang Wang***, Chanakya Bagya Ramesh, Scott Giangrande, Jerome Fast, Xianda Gong, Jiaoshi Zhang, Alyssa Matthews, Fan Mei, Ahmet Tolga Odabasi, Marcus Vinicius Batista Olivera, John Shilling, Jason Tomlinson, Die Wang, Jian Wang (2023). “Examining the vertical heterogeneity of aerosols over the Southern Great Plains.” *Atmos. Chem. Phys.* 23(24), 15671-15691.
51. Amoah, Nana A., Guang Xu, Ashish Ranjan Kumar, and **Yang Wang** (2023). “Calibration of low-cost particulate matter sensors for coal dust monitoring.” *Sci. Total Environ.* 859: 160336.
50. Patrick Brooks, Christopher Lupfer, **Wang Yang**, Weixing Hao, and Kashala Fabrice Kapiamba (2022). “The effect of hypochlorous acid on the filtration performance and bacterial decontamination of N95 filtering facemask respirators.” *AJIC*. doi: 10.1016/j.ajic.2022.07.013
49. Jiaoshi Zhang, **Yang Wang**, Steven Spielman, Susanne Hering, and Jian Wang (2022) “Regularized inversion of aerosol hygroscopic growth factor probability density function: application to humidity-controlled fast integrated mobility spectrometer measurements.” *Atmos. Meas. Tech.* 15(8): 2579-2590.
48. Weixing Hao, Kashala Fabrice Kapiamba, Varuni Abhayaratne, Shoaib Usman, Yue-Wern Huang, **Yang Wang*** (2022) “A filter-based system mimicking the particle deposition and penetration in human respiratory system for secondhand smoke generation and characterization.” *Inhal. Toxicol.* 34(7): 189-199.
47. Kashala Fabrice Kapiamba, Weixing Hao, Stephen Adom, Wenyan Liu, Yue-Wern Huang, **Yang Wang*** (2022) “Examining the metal contents in primary and secondhand aerosols released by electronic cigarettes.” *Chem. Res Toxicol.* 35(6): 954-962.
46. Steven Cheng, Weixing Hao, **Yang Wang**, and Shu Yang (2022) “Commercial Janus fabrics as reusable facemask materials: a balance of water repellency, filtration efficiency, breathability, and reusability.” *ACS Appl. Mat. Interfaces* 14(28): 32579–32589.
45. Nana Amoako Amoah, Guang Xu, **Yang Wang**, Jiayu Li, Yongming Zou, and Baisheng Nie (2021). “The application of low-cost particulate matter sensors for air quality monitoring and exposure assessment in underground mines - A review” *Int. J. Miner. Metall. Mater.* 29 (8), 1475-1490.
44. Jian Wang, Rob Wood, Michael P Jensen, J Christine Chiu, Yangang Liu, Katia Lamer, Neel Desai, Scott E Giangrande, Daniel A Knopf, Pavlos Kollias, Alexander Laskin, Xiaohong Liu, Chunsong Lu, David Mechem, Fan Mei, Mariusz Starzec, Jason Tomlinson, **Yang Wang**, Seong Soo Yum, Guangjie Zheng, Allison C Aiken, Eduardo B Azevedo, Yann Blanchard, Swarup China, Xiquan Dong, Francesca Gallo, Sinan Gao, Virendra P Ghate, Susanne Glienke, Lexie Goldberger, Joseph C Hardin, Chongai Kuang, Edward P Luke, Alyssa A Matthews, Mark A Miller, Ryan Moffet, Mikhail Pekour, Beat Schmid, Arthur J Sedlacek, Raymond A Shaw, John E Shilling, Amy Sullivan, Kaitlyn Suski, Daniel P Veghte, Rodney Weber, Matt Wyant, Jaemin Yeom, Maria Zawadowicz, Zhibo Zhang (2021). “Aerosol and Cloud Experiments in the Eastern North Atlantic (ACE-ENA).” *Bull. Am. Meteorol. Soc.* 103(2), E619-E641.
43. Gonzalez, Andrew, Hamada A. Aboubakr, John Brockgreitens, Weixing Hao, **Yang Wang**, Sagar M. Goyal, and Abdennour Abbas (2021). “Durable nanocomposite face masks with high particulate filtration and rapid inactivation of coronaviruses.” *Sci. Rep.* 11(1): 1-11.
42. Jay M. Tomlin, Kevin A. Jankowski, Daniel P. Veghte, Swarup China, Peiwen Wang, Matthew Fraund, Johannes Weis, Guangjie Zheng, **Yang Wang**, Felipe Rivera-Adorno, Shira Raveh-Rubin, Daniel A. Knopf, Jian Wang, Mary K. Gilles, Ryan C. Moffet, and Alexander Laskin (2021). “Impact of dry intrusion events on the composition and mixing state of particles during the winter Aerosol and Cloud Experiment in the Eastern North Atlantic (ACE-ENA)” *Atmos. Chem. Phys.* 21(24), 18123–18146.

41. Weixing Hao, Mark Stolzenburg, Michel Attoui, and **Yang Wang*** (2021). “Optimizing the activation efficiency of sub-3 nm particles in a laminar flow condensation particle counter: Model simulation” *J. Aerosol Sci.* 158, 105841.
40. Guangjie Zheng¹, **Yang Wang**¹, Robert Wood, Michael P. Jensen, Chongai Kuang, Isabel L. McCoy, Alyssa Matthews, Fan Mei, Jason M. Tomlinson, John E. Shilling, Maria A. Zawadowicz, Ewan Crosbie, Richard Moore, Luke Ziemba, Meinrat O. Andreae, and Jian Wang (2021). “New particle formation in the remote marine boundary layer.” *Nat. Commun.* 12(1): 1-10. (¹equal contribution)
39. Jiaoshi Zhang, Steven Spielman, **Yang Wang**, Guangjie Zheng, Xianda Gong, Susanne Hering, Jian Wang (2021). “Rapid measurement of RH-dependent aerosol hygroscopic growth using a humidity-controlled fast integrated mobility spectrometer (HFIMS).” *Atmos. Meas. Tech.* 14(8), 5625–5635.
38. **Yang Wang**, Guangjie Zheng, Michael Jensen, Daniel Knopf, Alexander Laskin, Alyssa Matthews, David Mechem, Fan Mei, Ryan Moffet, Arthur Sedlacek, John Shilling, Stephen Springston, Amy Sullivan, Jason Tomlinson, Daniel Veghte, Rodney Weber, Robert Wood, Maria Zawadowicz, Jian Wang (2021). “Vertical profiles of trace gas and aerosol properties over the Eastern North Atlantic: Variations with season and synoptic condition.” *Atmos. Chem. Phys.* 21(14), 11079-11098.
37. Miguel Ricardo A. Hilario, Ewan Crosbie, Michael Shook, Jeffrey S. Reid, Maria Obiminda L. Cambaliza, James Bernard B. Simpas, Luke Ziemba, Joshua P. DiGangi, Glenn S. Diskin, Phu Nguyen, Joseph Turk, Edward Winstead, Claire E. Robinson, Jian Wang, Jiaoshi Zhang, **Yang Wang**, Subin Yoon, James Flynn, Sergio L. Alvarez, Ali Behrangi, and Armin Sorooshian (2021). “Long-range transport patterns into the tropical northwest Pacific during the CAMP2Ex aircraft campaign: chemical composition, size distributions, and the impact of convection.” *Atmos. Chem. Phys.* 21(5), 3777-3802.
36. Anna L Hodshire, Emily Ramnarine, Ali Akherati, Matthew L Alvarado, Delphine K Farmer, Shantanu H Jathar, Sonia M Kreidenweis, Chantelle R Lonsdale, Timothy B Onasch, Stephen R Springston, Jian Wang, **Yang Wang**, Lawrence I Kleinman, Arthur J Sedlacek III, Jeffrey R Pierce (2021). “Dilution impacts on smoke aging: evidence in Biomass Burning Observation Project (BBOP) data”, *Atmos. Chem. Phys.* 21: 6839–6855.
35. Yanxiao Li, Zhekun Peng, Natalie J. Holl, Md. Rifat Hassan, John M. Pappas, Congjie Wei, Omid Hoseini Izadi, **Yang Wang**, Xiangyang Dong, Cheng Wang, Yue-Wern Huang, Donghyun Kim, and Chenglin Wu (2021). “MXene-Graphene field-effect transistor sensing of influenza virus and SARS-CoV-2.” *ACS Omega.* 6(10), 6643-6653
34. Zawadowicz, Maria A., Kaitlyn Suski, Jiumeng Liu, Mikhail Pekour, Jerome Fast, Fan Mei, Arthur J. Sedlacek, Stephen Springston, **Yang Wang**, Rahul A. Zaveri, Robert Wood, Jian Wang, and John Shilling (2021). “Aircraft measurements of aerosol and trace gas chemistry in the eastern North Atlantic.” *Atmos. Chem. Phys.* 21(10): 7983-8002.
33. Weixing Hao, Guang Xu, and **Yang Wang*** (2021). “Factors Influencing the Filtration Performance of Homemade Face Masks.” *J. Occup. Environ. Health.* 18(3): 128-138.
32. Huang Zhang, Hao Zhou, **Yang Wang**, Shuiqing Li, Pratim Biswas (2020). “A mini review on gas-phase synthesis for energy nanomaterials.” *Energy Fuels.* 35(1): 63-85.
31. **Yang Wang***, Guang Xu, Yue-Wern Huang (2020). “Modeling the load of SARS-CoV-2 virus in human expelled particles during coughing and speaking.” *PLOS One.* 15(10): e0241539
30. Weixing Hao, Andrew Parasch, Stephen Williams, Jiayu Li, Hongyan Ma, Joel Burken, **Yang Wang*** (2020). “Filtration performances of non-medical materials as candidates for manufacturing facemasks and respirators.” *Int. J. Hyg. Environ. Health.* 229: 113582
29. Miguel Vazquez-Pufleau*, **Yang Wang**, Pratim Biswas, Elijah Thimsen (2020). “Measurement of sub-2 nm stable clusters during silane pyrolysis in a furnace aerosol reactor.” *J. Chem. Phys.* 152: 024304 (*equal contribution)
28. **Yang Wang**, Guangjie Zheng, Steven R. Spielman, Tamara Pinterich, Susanne Hering, and Jian Wang (2019). “Retrieval of high time resolution growth factor probability density function from a humidity-controlled fast integrated mobility spectrometer.” *Aerosol Sci. Technol.* 53(9):1092-1106.

27. Girish Sharma, **Yang Wang**, Rajan Chakrabarty, and Pratim Biswas (2019). "Modeling simultaneous coagulation and charging of nanoparticles at high temperatures using the method of moments." *J. Aerosol Sci.* 132: 70-82.
26. Huang Zhang, Girish Sharma, **Yang Wang**, Shuiqing Li, and Pratim Biswas (2019). "Numerical modeling of the performance of high flow DMAs to classify sub-2 nm particles." *Aerosol Sci. Technol.* 53(1): 106-118.
25. Christopher Oxford, Charles Rapp, **Yang Wang**, Purushottam Kumar, Daniel Watson, Julianna Portelli, Eric Sussman, Steven Dhawan, Jingkun Jiang, and Brent Williams (2019). "Development and qualification of a VH-TDMA for the study of atmospheric aerosols." *Aerosol Sci. Technol.* 53(2): 120-132.
24. Zhichao Li, **Yang Wang**, Yongqi Lu, and Pratim Biswas (2019). "Investigation of aerosol and gas emissions from a coal-fired power plant under various operating conditions." *J. Air Waste Manage. Assoc.* 69(1): 34-46.
23. Guangjie Zheng, **Yang Wang**, Allison Aiken, Francesca Gallo, Mike Jensen, Pavlos Kollias, Chongai Kuang, Edward Luke, Stephen Springston, Janek Uin, Robert Wood, and Jian Wang (2018). "Marine boundary layer aerosol in Eastern North Atlantic: seasonal variations and key controlling processes." *Atmos. Chem. Phys.* 18(23): 17615-17635.
22. **Yang Wang**, Tamara Pinterich, and Jian Wang (2018). "Rapid measurement of sub-micrometer aerosol size distribution using a fast integrated mobility spectrometer." *J. Aerosol Sci.* 121:12-20.
21. Pratim Biswas, **Yang Wang**, and Michel Attoui (2018). "Sub-2 nm particle measurement in high-temperature aerosol reactors: a review." *Curr. Opin. Chem. Eng.* 21: 60-66.
20. Wenge Li, Yanjie Hu, Hao Jiang, Yi Jiang, **Yang Wang**, Su Huang, and Pratim Biswas, and Chunzhong Li (2017). "Fluxing template-assisted synthesis of sponge-like Fe₂O₃ microspheres toward efficient catalysis for CO oxidation." *Appl. Surf. Sci.* 444: 763-771.
19. Li Lu, Yanjie Hu, Hao Jiang, **Yang Wang**, Yi Jiang, Su Huang, Xiaofeng Niu, Pratim Biswas, and Chunzhong Li (2017). "Multi-shelled LiMn_{1.95}Co_{0.05}O₄ Cages with Tunable Mn Oxidation State for Ultra-High Lithium Storage." *New J. Chem.* 42(5): 3953-3960.
18. **Yang Wang**¹, Girish Sharma¹, Clement Koh, Vivek Kumar, Rajan Chakrabarty, and Pratim Biswas (2017). "Influence of Flame-Generated Ions on the Simultaneous Charging and Coagulation of Nanoparticles during Combustion." *Aerosol Sci. Technol.* 51 (7): 833-844. (**¹equal contribution**)
17. Tamara Pinterich, Steven Spielman, **Yang Wang**, Susanne Hering, and Jian Wang (2017). "A Humidity-controlled Fast Integrated Mobility Spectrometer (HFIMS) for rapid measurements of particle hygroscopic growth." *Atmos. Meas. Tech.* 10: 4915-4925.
16. Jiayi Fang¹, **Yang Wang**¹, Juha Kangasluoma, Michel Attoui, Heikki Junninen, Markku Kulmala, Tuukka Petäjä, and Pratim Biswas (2017). "The Initial Stages of Multicomponent Particle Formation during the Combustion Synthesis of Mixed SiO₂/TiO₂." *Aerosol Sci. Technol.* 52(3): 277-286. (**¹equal contribution**) (**Editor's selection of notable 2018 papers in *Aerosol Sci. Technol.***)
15. Jiayu Li, Anna Leavey, **Yang Wang**, Caroline O'Neil, Meghan A. Wallace, Carey-Ann D. Burnham, Adrianus CM Boon, Hilary Babcock, and Pratim Biswas (2018). "Comparing the Performance of 3 Airborne Virus Samplers for Influenza Virus." *J. Aerosol Sci.* 155: 133-145.
14. Jiayi Fang¹, **Yang Wang**¹, Juha Kangasluoma, Michel Attoui, Heikki Junninen, Markku Kulmala, Tuukka Petäjä, and Pratim Biswas (2017). "Cluster Formation Mechanisms of Metal Oxides during Combustion Synthesis." *Aerosol Sci. Technol.* 51(9): 1071-1081. (**¹equal contribution**)
13. **Yang Wang**, Juha Kangasluoma, Michel Attoui, Jiayi Fang, Heikki Junninen, Markku Kulmala, Tuukka Petäjä, and Pratim Biswas (2017). "Observation of Incipient Particle Formation during Flame Synthesis by Tandem Differential Mobility Analysis-Mass Spectrometry (DMA-MS)." *Proc. Combust. Inst.* 36(1), 745-752.
12. Yao Nie, **Yang Wang**, and Pratim Biswas (2017). "Mobility and Bipolar Diffusion Charging Characteristics of Crumpled Reduced Graphene Oxide Nanoparticles Synthesized in a Furnace Aerosol Reactor." *J. Phys. Chem. C.* 121(19): 10529-10537.

11. Jiayu Li, Haoran Li, Yehan Ma, **Yang Wang**, Chenyang Lu, and Pratim Biswas (2017). "Spatiotemporal 3D Measurements of Particle Mass Concentrations with a Distributed Sensor Network Platform." *Build. Environ.* 27: 138-147.
10. **Yang Wang**, Juha Kangasluoma, Michel Attoui, Jiaxi Fang, Heikki Junninen, Markku Kulmala, Tuukka Petäjä, and Pratim Biswas (2017). "The High Charge Fraction of Flame-generated Particles in the Size Range below 3 nm Measured by Enhanced Particle Detectors." *Combust. Flame.* 176: 72-80.
9. Yanjie Hu¹, **Yang Wang**¹, Hao Jiang, Yunfeng Li, Theodore Cohen, Yi Jiang, Binqi Wang, Ling Zhang, Pratim Biswas, and Chunzhong Li (2017). "Engineering the Outermost Layers of TiO₂ Nanoparticles Using in situ Mg Doping in a Flame Aerosol Reactor." *AIChE J.*, 63 (3) 870-880. (¹equal contribution)
8. Caroline O'Neil, Jiayu Li, Anna Leavey, **Wang Yang**, Matthew Hink, Meghan Wallace, Pratim Biswas, Carey-Ann Burnham, and Hilary Babcock (2017). "Aerosol Generation during Patient Care Activities." *Clin. Infect. Dis.* 65(8), 1342-1348.
7. **Yang Wang**, Jiayu Li, Anna Leavey, Hilary Babcock, and Pratim Biswas (2016). "Comparative Study on the Size Distributions and Respiratory Deposition of Particles Generated from Commonly Used Medical Nebulizers." *J. Aerosol Med. Pulm. Drug Deliv.* 30 (2): 132-140.
6. Kelsey Haddad, Ahmed Abokifa, Shalinee Kavadiya, Tandeep S. Chadha, **Yang Wang**, John Fortner, Pratim Biswas (2016). "Growth of Oriented, Single Crystal SnO₂ Nanocolumn Arrays by Aerosol Chemical Vapor Deposition (ACVD)." *CrystEngComm.* 18(39): 7544-7553.
5. Liu, Pai, Ian Arnold, **Yang Wang**, Yang Yu, Jiaxi Fang, Pratim Biswas, and Rajan K. Chakrabarty (2015). "Synthesis of Titanium Dioxide Aerosol Gels in a Buoyancy-opposed Flame Reactor." *Aerosol Sci. Technol.*, 49(12), 1232-1241.
4. **Yang Wang**, Jiayu Li, He Jing, Qiang Zhang, Jingkun Jiang, and Pratim Biswas (2015). "Laboratory Evaluation of Three Low-Cost Particle Sensors for Particulate Matter Measurement." *Aerosol Sci. Technol.* 49(11), 1063-1077. (**Editor's selection of notable 2015 papers in Aerosol Sci. Technol.** Featured in AAAR 2015 Winter Newsletter)
3. **Yang Wang**, Pai Liu, Jiaxi Fang, Wei-Ning Wang, and Pratim Biswas (2015). "Kinetics of Sub 2 nm TiO₂ Particle Formation in an Aerosol Reactor during Thermal Decomposition of Titanium Tetraisopropoxide." *J. Nanopart. Res.* 17 (3): 1-13.
2. Fang, Jiaxi, **Yang Wang**, Michel Attoui, Tandeep S. Chadha, Jessica R. Ray, Wei-Ning Wang, Young-Shin Jun, and Pratim Biswas (2014). "Measurement of Sub-2 nm Clusters of Pristine and Composite Metal Oxides during Nanomaterial Synthesis in Flame Aerosol Reactors." *Anal. Chem.* 86 (15): 7523-7529.
1. **Yang Wang**, Jiaxi Fang, Michel Attoui, Tandeep S. Chadha, Wei-Ning Wang, and Pratim Biswas (2014). "Application of Half Mini DMA for Sub 2nm Particle Size Distribution Measurement in an Electrospray and a Flame Aerosol Reactor." *J. Aerosol Sci.* 71: 52-64.

BOOK PUBLICATIONS

2. **Yang Wang**. "Chapter 2: Early Stages of Particle Formation in Aerosol Reactors: Measurement and Theory" of "Aerosols: Science and Engineering" edited by Pratim Biswas and Gregory Yablonsky, ISBN 978-3-11-073096-8. <https://doi.org/10.1515/9783110729481>
1. Pratim Biswas and **Yang Wang**. "The Wonder World of Aerosol Science and Engineering: Problem Sets with Solutions", ISBN-13: 978-1533264954; ISBN-10: 1533264953

INVENTION DISCLOSURE AND PROVISION PATENT

1. A Simulated Respiratory System for Secondhand Smoke Generation (2022), **Yang Wang**, YueWern Huang, and Weixing Hao. US Patent 2023/0306874 A1
2. Mxene-Graphene Field Effect Transistor Virus Sensor. Chenglin Wu, Yue-Wern Huang, Donghyun Kim, Cheng Wang, **Yang Wang**, and Xiangyang Dong (2022). US Patent 2024/0353408 A1

TECHNICAL PRESENTATIONS

- 2025 “Effect of Particle Concentration on Collection Efficiency in the Condensational Growth Tube of VIVAS Air Sampler.” Buffalo, New York, AAAR 43rd Annual Conference
- 2025 “Evaluating Fine-Scale Air Quality Heterogeneity Using a Low-Cost Multi-pollutant Sensor Network in Twin Cities, Minnesota.” Buffalo, New York, AAAR 43rd Annual Conference
- 2025 “Aerosol Fluxes and Boundary-Layer Coupling in New Particle Formation: Case Studies from the ARM ArcticShark Measurements.” Buffalo, New York, AAAR 43rd Annual Conference
- 2025 “Long-Term Trends in Aerosol Optical Properties and Biomass Burning Influence at the Southern Great Plains.” Buffalo, New York, AAAR 43rd Annual Conference
- 2024 “Molecular-based Comparison of Bioaerosol Sampling Instruments.” Albuquerque, New Mexico AAAR 42nd Annual Conference
- 2024 “Characterizing the Transient Emission of Particles and Gases From Single Puff of Electronic Cigarette Smoke.” Albuquerque, New Mexico AAAR 42nd Annual Conference
- 2024 “Vertical Transport of Ultrafine Aerosols during Deep Convection at the Southern Great Plains.” Albuquerque, New Mexico AAAR 42nd Annual Conference
- 2024 “TiO₂ and SiO₂ Formation in Corona Discharge Assisted Combustion.” Albuquerque, New Mexico AAAR 42nd Annual Conference
- 2024 “Small Particle Events over the Southeastern Atlantic Ocean.” Albuquerque, New Mexico AAAR 42nd Annual Conference
- 2023 “Examining the vertical heterogeneity of aerosol properties over the Southern Great Plains”. Portland, Oregon. AAAR 41st Annual Conference
- 2023 “Influence of Electronic Cigarette Operating Conditions on Induced Primary and Secondhand Aerosol Toxicity: Cell Viability and Membrane Integrity”. Nashville, Tennessee, 62nd Annual Meeting & ToxExpo
- 2023 “Examining the vertical heterogeneity of aerosol properties over the Southern Great Plains”. Washington DC. Department of Energy Atmospheric System Research PI Meeting
- 2022 “Ions Generated from a Premixed Methane-air Flame: Mobility Size Distributions and Charging Characteristics”. Raleigh, North Carolina, AAAR 40th Annual Conference
- 2022 “Examining the Oxidation State of the Metals in the Aerosols and Vape Liquid of Electronic Cigarettes”. Raleigh, North Carolina, AAAR 40th Annual Conference
- 2022 “Examining the vertical heterogeneity of aerosol properties over the Southern Great Plains”. Virtual. Department of Energy Atmospheric System Research PI Meeting
- 2021 “Examining the metal contents in primary and secondhand aerosols released by electronic cigarettes”. Albuquerque, New Mexico. AAAR 39th Annual Conference.
- 2021 “Optimizing the activation efficiency of sub-3 nm particles in a laminar flow condensation particle counter: Model simulation”. Albuquerque, Oregon. AAAR 39th Annual Conference.
- 2020 “Lessons and Perspectives: Respiratory aerosols and effectiveness of PPE.” Association of Environmental Engineering and Science Professors (AEESP) virtual workshop (online).
- 2019 “Vertical Profiles of Trace Gas and Aerosol Properties over the Eastern North Atlantic”. Portland, Oregon. AAAR 37th Annual Conference.
- 2018 “Particle formation in combustion environments: importance of charge distributions on evolution of aerosol size distributions.” St. Louis, Missouri. 10th International Aerosol Conference.
- 2018 “Evolution of the sub-micrometer aerosol size distributions measured in the Amazon rain forest during the wet season.” Washington DC. DOE ASR Science Team Meeting.
- 2017 “Rapid measurements of aerosol size distribution and hygroscopic growth with a fast integrated mobility spectrometer (FIMS).” New Orleans, Louisiana. AGU Fall Meeting.
- 2015 “Observation of Incipient Particle Formation during Flame Synthesis by Tandem Differential Mobility Analysis-Mass Spectrometry (DMA-MS).” Seoul, Korea. 36th International Symposium on Combustion.
- 2015 “Studying the Charging Characteristics of Flame Generated Particles below 3 nm with Enhanced Condensation Particle Counters.” Minneapolis, Minnesota. AAAR 34th Annual Conference.

- 2015 “Laboratory Evaluation of Three Low-cost Particle Sensors for Particulate Matter Measurement.” Minneapolis, Minnesota. AAAR 34th Annual Conference.
- 2014 “Kinetics of sub 3 nm Titanium Dioxide Particle Formation in an Aerosol Reactor during the Thermal Decomposition of Titanium Isopropoxide (TTIP).” Orlando, Florida. AAAR 33rd Annual Conference.
- 2013 “Sub 2 nm Particle Size Distribution Measurements in Aerosol Reactors: Bridging the Gap between Chemical Reactions and Particle Formation.” Busan, Korea. International Aerosol Conference.
- 2013 “Application of Half Mini DMA for Sub 2 nm Particle Size Distribution Measurement in an Electrospray and a Flame Aerosol Reactor.” Portland, Oregon. AAAR 32nd Annual Conference.

INVITED TALKS

- 2025 “Characterizing Ultrafine Particles in Atmospheric Systems”, Indian Institute of Technology Delhi, India
- 2025 “Characterizing Ultrafine Particles in Engineering and Atmospheric Systems”, Indian Institute of Technology Gandhinagar, India
- 2025 “Characterizing Ultrafine Particles in Engineering and Atmospheric Systems”, Department of Chemical, Environmental and Materials Engineering, University of Miami
- 2024 “Novel Aerosol Measurement Techniques for Energy and Environmental Applications”, Embry Riddle Aeronautical University, Department of Civil Engineering, Daytona Beach, Florida
- 2024 “Novel Aerosol Measurement Techniques for Energy and Environmental Applications”, University of Connecticut, Department of Mechanical Engineering, Storrs, Connecticut
- 2022 “Novel Aerosol Measurement Techniques for Energy and Environmental Applications”, Missouri University of Science and Technology, Department of Chemical Engineering, Rolla, Missouri
- 2022 “Novel Aerosol Measurement Techniques for Energy and Environmental Applications”, University of Missouri, Columbia, Department of Civil and Environmental Engineering, Columbia, Missouri
- 2021 “What information to share on mask making materials?” AEESP Converging COVID-19 Conference
- 2020 “Respiratory aerosols and effectiveness of PPE”, Missouri University of Science and Technology, Intersection Lecture Series, Rolla, Missouri
- 2020 “Rapid Measurements of Aerosol Size Distribution with a Fast Integrated Mobility Spectrometer (FIMS)”, University of Florida, Department of Civil and Environmental Engineering, Gainesville, Florida
- 2020 “Aerosol research in COVID-19”, Missouri University of Science and Technology, We Dig Research, Rolla, Missouri

FUNDED RESEARCH

Title	Project Date	Award	Credit	Role	Agency
CAREER: Quantifying the emission and health impact of aerosols generated from Southeast U.S. wetland biomass burning (CBET 2440202)	2025/09 – 2030/08	\$550,000	\$550,000	PI	NSF
Characterizing Gas and Aerosol Emissions from Prescribed Burns in North Florida	2025/10 – 2026/05	\$10,000	\$10,000	PI	UM
Quantifying and minimizing the environmental impact of agricultural plastic mulch film burning (Hinkley Center SUB00005000)	2025/09 – 2026/08	\$35,000	\$35,000	PI	Hinkley Center
Promoting community-based air quality monitoring partnerships to overcome environmental and health	2025/09 – 2026/12	\$123,974	\$73,080	Co-PI	EPA

disparities in Miami-Dade County (EPA-OAR-OAQPS-22-01)						
Conference: Center for Aerosol Science and Technology (CAST) workshop on wildland fire emissions and indoor air quality (CBET 2447193)	2025/01 - 2025/12	\$10,000	\$10,000	PI	NSF	
Characterizing the emission of primary aerosols generated from Southeast U.S. wetland biomass burning (Provost Research Award)	2025/06 - 2026/05	\$20,000	\$20,000	PI	UM	
Examining the vertical profile and flux of aerosols: observations from DOE's Southeast U.S. observatory	2024/09 - 2025/08	\$10,000	\$10,000	PI	UM	
Thermal Remediation: Unraveling the fate of per- and polyfluoroalkyl substances (PFAS) in contaminated soil during lab-scale incineration processes	2024/10 - 2025/10	\$285,621	\$113,868	Co-PI	FDEP	
ULINK: The climate challenge: integrating science, health, and engineering	2023/12 - 2024/05	\$53,400	\$2,482	Co-PI	UM	
Interactions between the boundary layer new particle formation and cloud systems: observations from ARM's Southeast U.S. field campaign (DE-SC0024084)	2023/09 - 2026/08	\$472,597	\$424,204	PI	DOE	
Understanding the physiochemical properties of thirdhand smoke generated from Electronic Nicotine Delivery Systems	2023/04 - 2023/05	\$5,000	\$5,000	PI	UM	
Characterizing the physical, chemical, and toxicological properties of secondhand aerosols generated from electronic nicotine delivery systems in indoor environments (CBET 2324142)	2023/03 - 2026/02	\$420,000	\$260,000	PI	NSF	
Boundary layer new particle formation at ARM sites – dependence and impact on clouds systems	2022/01 - 2022/07	\$24,335	\$24,335	PI	MST	
Therapeutic efficacy of antioxidants in treating oxidative damage induced by electronic cigarette aerosols	2021/06 - 2022/06	\$10,000	\$6,000	PI	MST	
Ultrafine inorganic particle formation in plasma-assisted combustion (CBET 2132655)	2021/09 - 2025/08	\$329,999	\$214,499	PI	NSF	
Understanding the vertical transport and removal of aerosols during deep convective events (DE-SC0021256)	2020/09 - 2025/08	\$260,485	\$260,485	PI	DOE	
Understanding the evolution and transport of indoor bioaerosols (CBET 2034198)	2020/08 - 2024/07	\$329,907	\$214,499	PI	NSF	
A novel detector for mitigating the covid-19 pandemic based on phase interrogated ultra-sensitive microwave resonance (CBET 2027571)	2020/06 - 2022/05	\$200,000	\$40,000	Co-PI	NSF	
Filtration performance testing of face masks	2020/04 - 2020/12	\$2,005	\$2,005	PI	Benni	

Benni: Benni Corp

EPA: Environmental Protection Agency

DOE: Department of Energy

FDEP: Florida Department of Environmental Protection

Hinkley Center: Hinkley Center for Solid and Hazardous Waste Management

MST: Missouri University of Science and Technology

NSF: National Science Foundation

UM: University of Miami

TEACHING

COURSES TAUGHT

- CET 300 Numerical Methods in Engineering (Fall 2025, Fall 2026), University of Miami, Coral Gables, Florida
- CET 751 Aerosol Instrumentation (Spring 2023, Spring 2025), University of Miami, Coral Gables, Florida
- CET 340 Introduction to Environmental Engineering (Fall 2022, Spring 2024, Spring 2025), University of Miami, Coral Gables, Florida
- EGN 381 Climate Challenges: Integrating Science, Health and Engineering (Spring 2025), University of Miami, Coral Gables, Florida
- CE/EnvE 2601 Fundamentals of Environmental Engineering and Sciences (Spring 2020, Spring 2021, Spring 2022), Missouri University of Science and Technology, Rolla, Missouri
- EnvE 5662 Air Pollution Control Methods (Fall 2019, Fall 2020, Fall 2021), Missouri University of Science and Technology, Rolla, Missouri
- EECE 504, Aerosol Science and Technology, Session Instructor and Grader, Washington University in St. Louis, St. Louis, Missouri
- EECE 368, Transport Phenomena, Session Instructor and Grader, Washington University in St. Louis, St. Louis, Missouri

GRADUATE STUDENT ADVISED

(IP) in progress

Ph.D.

2025 – (IP)	Amir Sharafudin	TBD
2024 – (IP)	Ruoyu Zhang	TBD
2020 – 2026	Chanakya Bagya Ramesh	Ultrafine inorganic particle formation in plasma-assisted combustion <u>Current Position:</u> Research Associate at Virginia Commonwealth University
2019 – 2025	Weixing Hao	Understanding the evolution and transport of indoor bioaerosols <u>Current Position:</u> Research Associate at Particle Measurement and Technology Laboratory
2020 – 2025	Kapiamba Kashala Fabrice	Characterizing the physical, chemical, and toxicological properties of secondhand electronic cigarette aerosols <u>Current Position:</u> Process Engineer at Freeport-McMoran Inc.

Master

2021 – 2024	Marcus Batista	Occurrence and Evolution of New Particle Formation Events over the Southeast Atlantic <u>Current Position:</u> Associate Consultant at Trinity Consultants.
2021 – 2024	Abdulrahman Bani	Particulate matter sensor development and deployment in underground mines
2020 – 2023	Ahmet Tolga Odabasi	Predicting the transport of airborne particles using the Hysplit model
2021 – 2023	Varuni Abhayaratne	A Network of Low-Cost Multi-Pollutant Air Quality Sensors for Evaluating Fine-Scale Exposure Disparity in Twin Cities, MN
2019 – 2021	Doaa Rjoub	Early wildfire detection by air quality sensors on unmanned aerial vehicles: optimization and feasibility

GRADUATE STUDENT DISSERTATION/THESIS COMMITTEE SERVED

2026 – (IP)	Jinghao Huang (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Developing Organic Electrode Material for Stable and Sustainable Sodium-ion Batteries
2024 – (IP)	Yiming Xi (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Composite Nanoparticle Synthesis for Producing Products of Value and Waste Conversion
2025 – 2026	Maxwell Tsipoaka (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Multifunctional Boron Nitride Platforms for Solid-State Hydrogen Storage: Nanoconfinement, Surface Activation, and Bio-Inspired Molecular Chemisorption
2023 – 2025	Amin Shirkhani (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Advancement of Water-Based Condensational Growth Tube Collector for in-situ virus detection and physiologically relevant in-vitro aerosol toxicity
2024 – 2025	Isha Kowey (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Olefin/Paraffin Gas Separation by Novel Fluorinated Copolyimide and POC-derived CMS MMM
2024 – 2024	Ruthra Dharshini Murugavel (Ph.D.), Department of Chemical, Environmental and Materials Engineering, University of Miami	Hydrogen Storage: a Nano Sorbent Development, Capacity Assessment, and Structure-Property Relationship Investigation
2022 – 2024	Ta-Chun Lin (M.S.), Department of Biological Sciences, Missouri University of Science and Technology	Evaluating the Impact of Secondhand ENDS Aerosols on ROS-mediated Alterations of Epigenetic Events: Implications for COPD Pathogenesis
2020 – 2024	Mirza Muhammad Zaid (Ph.D.), Department of Mining Engineering, Missouri University of Science and Technology	Reduce dust exposure through accurate sensor monitoring and filter structural optimization
2019 – 2023	Nana Amoah (Ph.D.), Department of Mining Engineering, Missouri University of Science and Technology	Monitoring and Controlling coal dust exposure using low-cost PM sensors and CFD methods

UNDERGRADUATE STUDENTS ADVISED

2026	Mikaela Jones	UM	Emission characterization from wetland biomass burning
2025	Courtnei Spencer	UM	Emission characterization from agricultural plastic burning
2024	Jonas Junquera	UM	Thermal remediation of PFAS in contaminated soils
2023	Madison Morneau	UM	Condensation particle counter in the pulse-height mode
2023	Enzo Larralde	JHU	Measurement of ultrafine nanoparticles in flames
2022	Jad Makuch	UM	Analyzing the aerosols measured from CACTI campaign
2022	Gabriel Georgakopoulos	UM	Examining the thirdhand aerosols from e-cigarettes
2022	Grace Duong	MST	Characterization of VOCs generated from e-cigarettes
2022	KeYu Wang	MST	Aerosols generated from new generations of e-cigarettes
2022	Rosalia Meusch	MST	Characterization of VOCs generated from e-cigarettes
2021	Elysia Sparks	MST	Air quality sensor network data analysis
2021	Abigail Cain	MST	Air quality sensor network data analysis
2021	Chase Rowland	MST	Characterization of e-cigarette aerosols
2020	Brandon Christian	MST	Performance of face shields in blocking aerosols
2020	Clayton Resz	MST	Filtration efficiency of common household materials

2020	Maan Mahroos	MST	Sensor deployment in underground mines
2020	Baylee Hutchinson	MST	Analysis of aerosols from electronic cigarettes
2020	Scott Major	MST	Sensor platform development for air quality monitoring

AWARDS

2025	National Science Foundation CAREER Award		
2025	Provost's Research Award at the University of Miami		
2023	Nominee of the Alexander Orr Jr. Excellence in Teaching Award at the University of Miami		
2022	American Academy of Environmental Engineers and Scientists 40 Under 40 Recognition		
2022	Outstanding Reviewer of Aerosol Science and Technology		
2020	NASA Group Achievement Award for CAMP ² Ex airborne Earth Science Mission		
2019	GAeF Ph.D. Award, European Aerosol Conference (1-2 awardees globally each year)		
2019	Editor's selection of notable 2018 papers in Aerosol Sci. Technol.		
2018	Ph. D. Dissertation Award (top 5%), Washington University in St. Louis		
2017	Chinese government award for outstanding self-financed students abroad (500 globally)		
2016	Student Travel Award for the 36th International Symposium on Combustion, Seoul, Korea		
2016	Editor's selection of notable 2015 papers in Aerosol Sci. Technol.		
2015	Outstanding and Recognized Reviewer of J. Aerosol Sci.		
2014	Doctoral Student Teaching Assistant Award, Washington University in St. Louis (top 5%)		
2012	The Otis, Dorothy and Bryce Sproul Family Fellowship		
2012	Excellent Undergraduate Thesis Award of Tsinghua University (top 5%)		
2012	Outstanding Graduates of Tsinghua University (top 5 %)		
2009	National Comprehensive Scholarship, Tsinghua University		
2011	National Comprehensive Scholarship, Tsinghua University		

STUDENT AWARDS

2026	Ruoyu Zhang	Selected and Funded to Attend the Department of Energy Atmospheric Radiation Measurement (ARM) Summer School
2025	Ruoyu Zhang	Student Presentation Award at the 43 rd Annual Conference of American Association for Aerosol Research in Buffalo, NY
2025	Ruoyu Zhang	Selected and Funded to attend the Department of Energy Atmospheric Radiation Measurement (ARM) Summer School
2025	Weixing Hao	CEME Outstanding Graduate Research Award
2024	Kapiamba Fabrice	Recipient of the Axel Hendrickson Scholarship from the Florida Section of the Air & Waste Management Association (A&WMA)
2024	Marcus Batista	Outstanding Poster Award at the 2024 College of Engineering Research Symposium
2024	Chanakya Bagya Ramesh	2 nd place in the poster competition of the UM Clean Energy Summit
2024	Weixing Hao	UM Outstanding Graduate Research nominee
2024	Kapiamba Fabrice	National Bouchet Graduate Honor Society Inductees
2023	Varuni	2 nd place in student presentations at the 2023 Midwest Environmental Education Conference (MAEEC)
2023	Marcus Batista	Outstanding research presentation award at the BRASA Summit Conference in Washington DC
2023	Chanakya Bagya Ramesh	Annual Meeting of AAAR Student Travel Award
2023	Weixing Hao	Annual Meeting of AAAR Student Travel Award
2023	Weixing Hao	University of Miami Graduate Student Travel Scholarship recipient

2023	Marcus Batista	Annual Meeting of AAAR Student Travel Award
2023	Marcus Batista	Selected and funded to attend Amazon Forests and Global Change – Summer School 2023
2022	Kapiamba Fabrice	NOBCChE Advancing Science Grant
2022	Kapiamba Fabrice	Annual Meeting of AAAR Student Travel Award
2021	Kapiamba Fabrice	Best presentation at the Mid-America Environmental Engineering Conference

SERVICE

EXTERNAL SERVICE:

JOURNAL REVIEWER

ACS Nano, Aerosol Science and Technology, Aerosol and Air Quality Research, Atmospheric Chemistry and Physics, Atmospheric Environment, Advanced Materials Technologies, Atmospheric Measurement Techniques, Chemical Reviews, Combustion and Flame, Energy and Fuels, Environmental Pollution, Environmental Science: Atmosphere, Environmental Science and Technology Letters, Environmental Science and Technology, Geophysical Research Letters, Hygiene and Environmental Health Advances, Journal of Hazardous Materials, Journal of Geophysical Research: Atmosphere, Journal of Aerosol Science, Journal of the Air and Waste Management Association, Nature Communication, Nature Scientific Report, PloS One, Proceedings of the Combustion Institute, Sensors

JOURNAL EDITOR

- 2024 to 2025 Guest Editor of Air Quality in 70th Anniversary of AAEEES Special Issue of Environmental Engineer and Scientist
- 2022 to 2023 Guest Editor for Nanotechnology: Airborne Pathogen Transmission and Mitigation: Perspectives from Aerosol Science and Nanotechnology.
- 2022 to 2023 Topic Editor for Frontiers in Energy Research: The Formation Mechanism, Emission Control and Hazard Assessment of Combustion Pollutants.

PROPOSAL PANELIST AND AD HOC REVIEWER

- National Science Foundation:
 - December 2025, Review Panel, CAREER Program, Environmental Engineering Program
 - May 2025, Review Panel, Environmental Engineering Program
 - March 2024, Review Panel, Environmental Engineering Program
 - February 2020, Review Panel, Environmental Engineering Program
- Department of Energy:
 - February 2025, Review Panel, Atmospheric System Research Program
 - February 2021, Review Panel, Atmospheric System Research Program
- National Institutes of Health
 - November 2022, Study Section ZRG1 ICN-E (56)
- Natural Sciences and Engineering Research Council of Canada (ad-hoc): 2020
- Miami-Dade Innovation Authority: 2025

PROFESSIONAL SERVICES AND EXPERIENCES

- 2025 Chair of the Early Career Committee of the American Association for Aerosol Research (AAAR)
- 2025 Scholar-in-Residence at the Department of Civil Engineering, Indian Institute of Technology Gandhinagar
- 2024 Vice Chair of the Early Career Committee of the American Association for Aerosol Research (AAAR)

- 2023 Early Career Committee of the American Association for Aerosol Research (AAAR)
- 2022 Co-convenor of AEESP workshop “Aerosol Science and Engineering and Public Health: Focus on COVID-19”.
- 2022 Session Chair: AEESP Research and Education Conference
- 2022 Chair of Working Group (Combustion and Material Synthesis) at AAAR
- 2021 Convened the AEESP virtual workshop “Aerosol Science and Engineering and Public Health: Focus on COVID-19”.
- 2021 Vice Chair of Working Group (Combustion and Material Synthesis) at AAAR.
- 2019 Session Chair: AAAR Annual Conference.
- 2018 Session Chair: AAAR Annual Conference.
- 2017 Session Chair: AAAR Annual Conference.
- 2017 AGU OSPA judge: American Geophysical Union 2017 fall meeting.
- 2016 Session Chair: AAAR Annual Conference.
- 2015 Session Chair: AAAR Annual Conference.
- 2015 Visiting scholar at the Division of Atmospheric Science, University of Helsinki.
- 2014 Princeton-Combustion Institute Summer School

MEDIA REPORTS

- 2026 Quoted by PolitiFact on “When someone’s vaping nearby, what are you breathing in? The risks of vape pens’ secondhand aerosols”
<https://www.politifact.com/article/2026/may/19/secondhand-vaping-health-risks-research/>
- 2025 Reported by News@TheU on NSF CAREER Award “NSF awards boost research on aerosols and concrete”.
<https://news.miami.edu/coe/stories/2025/07/nsf-awards-boost-research-on-aerosols-and-concrete.html>
- 2025 Reported by News@TheU on student research and achievement “Vaping’s hidden dangers”.
<https://news.miami.edu/coe/stories/2025/06/uncovering-the-hidden-dangers-of-vaping.html>
- 2025 Reported by News@TheU on collaborative research “A potential end to ‘forever chemicals’”.
<https://news.miami.edu/stories/2025/04/a-potential-end-to-forever-chemicals.html>
- 2023 Reported by News@TheU on research project “UM Professors Awarded Collaborative Grant from U.S. Department of Energy to Study Atmospheric Particle Formation”
<https://news.miami.edu/coe/stories/2023/08/um-professors-awarded-collaborative-grant-from-u.s-department-of-energy-to-study-atmospheric-particle-formation.html>
- 2023 Quoted by St. Louis Public Radio on “Wash U scientists build cyclone-fueled coronavirus detection machine” <https://news.stlpublicradio.org/coronavirus/2023-07-12/wash-u-scientists-build-cyclone-fueled-coronavirus-detecting-machine>
- 2020 Research during COVID-19 reported by mainstream media:
 to New York Times: <https://www.nytimes.com/article/coronavirus-homemade-mask-material-DIY-face-mask-ppe.html>
 2022 BBC News: <https://www.bbc.com/future/article/20200504-coronavirus-what-is-the-best-kind-of-face-mask>
 NPR News: <https://www.npr.org/sections/goatsandsoda/2020/04/22/840146830/adding-a-nylon-stocking-layer-could-boost-protection-from-cloth-masks-study-find>
 USA Today: https://www.phelpscountyfocus.com/school/article_c1d49096-4c67-11ec-acbe-6b16230f74d4.html?=&subcategory=194%7CClasses
 C&EN: <https://cen.acs.org/materials/Scientists-take-closer-look-materials/98/i25>
 Scrippsnews: <https://www.scrippsnews.com/health/coronavirus/which-diy-masks-actually-work>

St. Louis Public Radio: <https://www.stlpr.org/coronavirus/2021-06-17/more-than-100-missouri-schools-have-bought-often-unproven-air-cleaning-technology>
and so on.

PROFESSIONAL AFFILIATIONS

American Association for Aerosol Research, American Geophysical Union, Society of Toxicology, Combustion Institute, Association of Environmental Engineering and Science Professors

INTERNAL SERVICE:

- 2026 Speaker of the UM College of Engineering NSF CAREER Incubator Workshop
- 2026 Organizing the 4th Miami Workshop on Aerosol Science and Technology (1/15 to 1/16)
- 2025 Lab Sharing and Safety Committee at CEME (preparing safety protocols and creating websites on lab safety hosted at CEME)
- 2025 Organizing the 3rd Miami Workshop on Aerosol Science and Technology (1/8 to 1/10)
- 2024 Marketing for American Academy of Environmental Engineers and Scientists (AAEES) Kappe Lecture hosted by CEME at UM (website and flyer design and event promotion on social media)
- 2024 Hosted Dr. Francesco Carbone from the University of Connecticut for the seminar at the University of Miami
- 2024 Maintained CEME website ceme.coe.miami.edu
- 2024 Designed the flyer and brochure for CEME for recruiting purposes
- 2024 Faculty marshal of the College of Engineering in the 2024 commencement ceremony
- 2024 Proposal review for Sylvester Big Ideas Initiative at the University of Miami
- 2024 Environmental Engineering Curriculum Committee for the Department of Chemical, Environmental and Materials Engineering at the University of Miami
- 2024 Organizing the 2nd Miami Workshop on Aerosol Science and Technology (1/10 to 1/12)
- 2024 Host Dr. Bin Gao for the onsite interview at the University of Miami
- 2024 Data Science/Engineering Search Committee (interviewed 10+ candidates)
- 2023 Design trifold brochure for the Department of Chemical, Environmental and Materials Engineering at the University of Miami
- 2023 Assisted in revising the qualification exam format for the Department of Chemical, Environmental and Materials Engineering at the University of Miami
- 2023 Meeting with the Academic Review Committee (ARC) for the College of Engineering
- 2023 Organizing the 1st Miami Workshop on Aerosol Science and Technology (1/17 to 1/18)
- 2023 Engineering Day at Frost Science
- 2023 Host of Future 'Cane Day - Fall 23 Admitted Undergraduate Students and Parents Open House Department of Chemical Environmental and Materials Engineering Breakout
- 2022 Energy and Environment Search Committee (interviewed 10+ candidates)
- 2022 Health Engineering Search Committee (interviewed 10+ candidates)