Fall 2025

AICHE Environmental Division Newsletter

Dear Colleagues,

Welcome to the Environmental Division newsletter for Fall 2025. It has been a great year so far for our Division with the planning of the exceptional program at the AIChE Spring and Fall National Meetings on relevant and emerging topics, the exciting webinar program, as well as the selection of our 2025 AIChE Environmental Division Distinguished Award winners. The awards include the Lawrence K. Cecil Award, the Dr. Peter B. Lederman Service Award, the Early Career Award, Graduate (3 awards), and Undergraduate (2 awards) Student Paper Awards. Please find the announcement of these award winners below in this newsletter. I wish to thank the committee chairs, Dr. Matt Alexander, Dr. Jason Trembly, Dr. Chad Able, and Dr. Michael Wong, and their committee members for all the hard work and time they put into these selections.

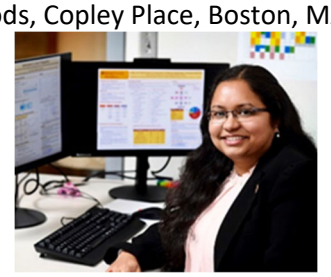
The 2025 Webinar Committee has done an exceptional job in lining up great speakers from Academia, Industry, and Consortia on the new theme of 'AI for Advancing Safe and Sustainable Technologies', and we have heard from Dr. Joseph Kwon, Dr. Yuhe Tian, Dr. Bhavik Bakshi, Dr. Faruque Hasan, Dr. Victor Zavala, and Dr. Akhilesh Jain. There are two more webinars planned for this year, and the information and past webinar recordings can be found at our website: https://www.aiche.org/community/sites/divisions-forums/environmental-division/webinars-0 and our LinkedIn page: http://linkedin.com/company/aiche-environmental-division/.
This year, our website and social media efforts have been led by Patatri Chakraborty, and with her diligent efforts, we now have 752 LinkedIn followers. This has increased participation in several of our division activities.

Another important activity this time of year is our division elections. Our past chair, Dr. Matthew Alexander, has worked diligently to develop a list of candidates for the positions of second vice-chair, directors, and division secretary, presented below in this newsletter. The email containing a link to the online ballot for this election will be sent soon. Please take just a few moments to complete the ballot.

Our division is making continued progress towards the fundraising efforts for the Lawrence K. Cecil Award endowment with the goal of raising $50K. This endowment will finance our division's most prestigious award, the Lawrence K. Cecil Award, which recognizes one individual each year for their outstanding contributions to chemical engineering for the preservation and improvement of the environment. We welcome any individual donations ($10 onwards) for this effort at any time via this direct link:https://ecommerce.aiche.org/aiche-online/Donation/Home/Donation?setskin=giving&productid=976738123
or contributions can also be made during the time of membership renewals.

Finally, I wish to invite all of you attending the AIChE Annual Meeting in Boston in early November to join us for the division dinner (co-hosted with Management and Environment, and the Law Divisions). It will be held on Monday evening, November 3rd at 6 pm at Legal Seafoods, Copley Place, Boston, MA.

Sincerely,
Kirti M. Yenkie, AIChE Environmental Division Chair (2025)



2025 Future Division Webinars

- On September 29, 2025, Lynn Frostman, Ph.D. and Tyler Engel of Avatar Innovations will speak on "Ignite Innovation: Empowering Mid-Career Professionals with Agility and Impact" Link: https://aiche.zoom.us/webinar/register/WN_wCiMvO_PQMeuACiuTMJK1g
- On October 27, 2025, Jean Pimentel, Ph.D. of Széchenyi István University will speak. Link: https://aiche.zoom.us/webinar/register/WN_8KZsyFnIQcmCCSoxkHRk5g

2025 Environmental Division Leadership

Chair: Dr Kirti Maheshkumar Yenkie
1st Vice-Chair: Dr. Jason Trembly
2nd Vice-Chair: Dr. Chad Able
Past Chair: Dr. Matthew Alexander
Secretary: Dr. Robert Peters
Treasurer: Dr. Gerardo J Ruiz-Mercado
AIChE Environmental Division Leadership Webpage

Director: Dr. Sage Hiibel
Director: Dr. Dora Lopez
Director: Mr. David A Russell
Director: Dr. Enoch Nagelli
Director: Dr. Ana I. Torres
Director: Dr. Michael Wong

2025 Environmental Division Awards

Our Division is proud to recognize **2025 AIChE Environmental Division** awards winners:

Lawrence K. Cecil Award in Environmental Chemical Engineering: Dr. Jason Trembly, Russ Endowed Chair, Mechanical and Chemical and Biochemical Engineering, and Director, Institute for Sustainable Energy and the Environment, Russ College of Engineering and Technology, Ohio University, Athens, OH.

Environmental Division Early Career Award: Dr. Lu Xu, Assistant Professor in the Department of Energy, Environmental, and Chemical Engineering at the Washington University in St. Louis, MO.

Dr. Peter B. Lederman Environmental Division Service Award: Dr. Kerry Kelly, Associate Professor and Director of Graduate Studies, Chemical Engineering, at the University of Utah.

Environmental Division Graduate Student Paper Awards		
1st Place	Andrew Kasick (Ohio University)	Effect of Steam on Ethane Electro-oxidative Dehydrogenation to Ethylene, Industrial & Engineering Chemistry Research, 2025
2nd Place	Emmanuel Apau Aboagye (Rowan University)	– Leveraging machine learning algorithms to predict life cycle inventory assessments (LCIA) to facilitate sustainable process design, Computers and Chemical Engineering, 2025
3rd Place	Sogol Asaei (Case Western Reserve University)	Electrochemical biosensing of cerium with a tyrosine-functionalized EF-hand loop peptide, AIChE Journal, 2024

Environmental Division Undergraduate Student Paper Awards		
1st Place	Quinn Bennett (Ohio University)	Semi-Continuous Ex Situ Carbon Dioxide Mineralization in Produced Water for Calcite Production
2nd Place	Emma Marie Padros and Marcella McMahon (Rowan University)	Pollution Prevention Through Popcorn: An Introduction to Life Cycle Analysis, Proceedings of the ASEE Annual Conference & Exposition, 2025

Please join our Awards session at the 2025 AIChE Annual Meeting in Boston, MA to listen to our distinguished award winners. November 3rd (Monday) from 8 to 10:30 AM, venue: *Wellesley (Third Floor, Marriott Boston Copley)* Program Information: https://aiche.confex.com/aiche/2025/meetingapp.cgi/Session/57401

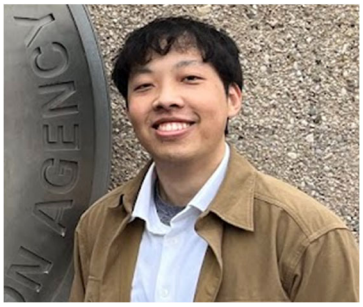
Environmental Division Community Events at the AIChE Annual Meeting

1) AIChE Environmental Division Dinner (in collaboration with Management and Law Divisions):
November 3rd (Monday) at 6 pm at Legal Seafoods, Copley Place, Boston, MA
2) AIChE Environmental Division Executive Committee Meeting
November 4th (Tuesday), 11:30 to 12:30 PM, Venue: Boylston, Marriott Boston Copley
3) AIChE Environmental Division Programming Meeting
November 4th (Tuesday), 11:30 to 12:30 PM, Venue: Boylston, Marriot Boston Copley

Candidates for Environmental Division Offices

Please watch for an email from AIChE with the environmental division ballot. Voting will remain open until October 15th.

Candidate for Second Vice Chair



John D. Chea, Ph.D., Chemical Engineer, Bright Path Laboratories

John Chea is a Chemical Engineer at Bright Path Laboratories. He graduated from Rowan University with a PhD in Chemical Engineering in 2022, where he focused his thesis on sustainable process development. Following graduation, he joined the US Environmental Protection Agency as an Oak Ridge Institute for Science and Education (ORISE) fellow, where he concentrated on applying his skill sets to solve end-of-life material management challenges and developed tools to aid with forecasting the impacts of various policies. He later became a Federal Postdoctoral Researcher in the Office of Research & Development (ORD), where he performed data engineering work to link existing datasets and fill data gaps that would be fed into a unified platform to operationalize sustainable chemistry-related work. At Bright Path Laboratories, John is translating bench-scale chemistry to commercial processes and developing reactor kinetic models with the goals of ensuring sustainable, efficient, and economically viable production of pharmaceutical products.

John has demonstrated high versatility regardless of his role. In the past two years, John has served AIChE Environmental Division as part of the webinar committee. Notably, in 2025, he took on a leadership role (Co-Director) to coordinate with speakers and new committee members, creating monthly webinars that bring awareness of existing environmental research to the broader Chemical Engineering communities. John remains committed to serving the Environmental Division as needed.

Candidate for Secretary

Robert W. Peters, Ph.D., P.E., Professor Emeritus of Environmental Engineering, Department of Civil, Construction, and Environmental Engineering, University of Alabama at Birmingham

Dr. Robert W. Peters joined the environmental engineering faculty as an Associate Professor of Environmental Engineering in the Department of Civil and Environmental Engineering at the University of Alabama at Birmingham (UAB) in fall 2001. He was promoted to full Professor in fall 2004. He retired from UAB in July 2000 and was granted Professor Emeritus status in April 2001.

He received his B.S.Ch.E. degree in chemical engineering from Northwestern University and his M.S. and Ph.D. degrees in chemical engineering from Iowa State University. He is a registered Professional Engineer (PE). He is a past-Chair of AIChE's Environmental Division (1990), has twice served as Director of the Environmental Division (1985–1987 and 1998–2000), and currently is Secretary of the Division.

He currently serves as a consultant on a 4-year NSF-sponsored project, involving collaborations involving Louisiana Tech University (lead organization), Boise State University, Louisiana State University at Shreveport, University of Arkansas at Pine Bluff, University of Arkansas Medical School, and the University of Alabama at Birmingham. He coordinates the activities of the External Advisory Board for the project. He is also working on a book on waste plastics management to be published by John Wiley Publishers.

Candidates for Director (vote for two)

Akhilesh Jain, Sr Staff Product Manager, Baker Hughes

Akhilesh Jain is a champion for advanced analytics and AI in the chemical and energy industries with a robust interdisciplinary background spanning chemical engineering, computer science, and machine learning. Currently, he serves as the Senior Staff Product Manager for Advanced AI and Analytics at Baker Hughes responsible for bringing advanced analytics capabilities in asset health, strategy, process optimization and sustainability.

Serving as the Director for the Environmental Division of AIChE aligns deeply with Akhilesh's professional journey and personal mission. With a PhD in Chemical Engineering and over a decade of experience applying advanced analytics and AI across the energy, chemicals, and fertilizers sectors, Akhilesh has seen first-hand how data-driven innovation can transform industrial sustainability.

His work bridges the gap between chemical engineering and machine learning, bringing scalable solutions to complex environmental challenges such as efficient carbon capture, utilization and storage. From predictive maintenance to emissions reduction, I've helped organizations like BP and Marathon leverage AI to drive operational efficiency and environmental stewardship - and I would like to bring in my expertise in leading this division for a more sustainable and efficient future.

Natalia Cano, Biological Engineering, M.Sc., Ph.D., Postdoctoral Researcher University of Twente

Natalia Cano is a Post-Doctoral Research Associate in the Faculty of Behavioral, Management, and Social Sciences (BMS) at the University of Twente. She has extensive experience developing methods and tools to assess the sustainability performance of chemical processes, supply chains, and life cycle assessment (LCA). Natalia holds a Ph.D. and M.Sc. in Sustainability and a B.S. in Biological Engineering from the Universidad Nacional de Colombia. Her research journey has taken her across four continents, including positions at the Biotechnology and Society Group at TU Delft (Netherlands), the Environmental Research Centre (Germany), the Centre for Water in the Minerals Industry (Australia), and Sustainable Systems Engineering at Ghent University (Belgium). She currently serves on the committee board of the Emergy Society, as the legal representative of the Life Cycle Iberoamerica Network, and as President of the Colombian Life Cycle Assessment Network. She is also an Adjunct Professor at the Universidad Nacional de Colombia.

My career has been guided by a strong belief that the sustainability assessment must bridge science, policy, and practice across disciplines and across borders. The AIChE Environmental Division's mission resonates deeply with my values on advancing chemical engineering through sustainable solutions that address global challenges. Serving as a Director would allow me to contribute my international experience, expand outreach to underrepresented regions, and strengthen collaboration between academia, consultancy, and industry. I am passionate about empowering the next generation of environmental professionals to design innovative, equitable, and impactful solutions for a sustainable future.

Monica Rodriguez-Morris, Post-doctorate, ORISE, US EPA

I consider myself a garbologist, I am deeply interested in how products are manufactured, used and disposed of, and how these interactions influence waste management systems and shape environmental outcomes. My research has focused on the sustainability of single-use products, reusable products, plastics and bioplastics with a strong emphasis on human behavior and real-world application. I completed my BS in Environmental Engineering at the Universidad Politécnica de Puerto Rico and my master's and PhD at UW-Madison. I've worked as an ORISE postdoc at the U.S. EPA where I have furthered my knowledge and worked in collaborative teams at the intersection of environmental and chemical engineering.

I'm interested in serving within the AIChE Environmental Division to continue strengthening the connection between scientific research and community engagement and contributing to outreach efforts ensuring that environmental policy reflects both rigorous evidence and the realities people face every day. Through my mentoring of Latinx students, outreach in Puerto Rico, and advocacy for sustainable practices in healthcare and education, I've seen firsthand how impactful collaboration and community engagement can be. I aim to support the Division's mission by fostering interdisciplinary dialogue, supporting emerging researchers, and advancing environmental policy that reflects both scientific integrity and social responsibility. I hope to contribute and be part of the Environmental Division as it continues to be a catalyst for meaningful change—bridging research, practice, and community impact.

Aurora Munguia-Lopez, Assistant Professor, Department of Chemical and Biological Engineering, SUNY Buffalo

Dr. Aurora del Carmen Munguía-López is an Assistant Professor in the Department of Chemical and Biological Engineering at the University at Buffalo (UB), The State University of New York (SUNY). She leads the Sustainable Systems Engineering Laboratory and teaches Chemical Systems and Control and Sustainable Engineering. Her research group aims to develop computational tools that provide insights into the design of sustainable products and technologies. The methodological work of her laboratory focuses on four broad topics: (1) multi-scale process design, (2) technology pathway analysis, (3) sustainable supply chains, and (4) environmental and social justice. The Sustainable Systems Engineering Laboratory is interested in applying these methodologies to address problems in plastics recycling, waste management, clean energy technologies, food, pharmaceuticals, and textiles manufacturing.

Before joining UB CBE, Dr. Munguía-López was a postdoctoral research associate in the Department of Chemical and Biological Engineering at the University of Wisconsin-Madison. She received her BSc and MSc degrees in Chemical Engineering from the Technological Institute of Celaya and her PhD in Chemical Engineering from the University of Michoacan in Mexico. During the second year of her PhD, she was a visiting scholar at the University of Wisconsin-Madison.

Environmental Division Sessions for the Fall National Meeting Boston, MA

Sunday November 2, 2025

- Emerging Treatment Technologies and Characterization for PFAS Contamination
- Remediation of Emerging Contaminants and Legacy Compounds

Monday November 3, 2025

- Environmental Division Awards and Honors
- 180 Poster Session: Environmental Division

Tuesday November 4, 2025

- Design and Analysis of Carbon Capture and Negative Emissions Technologies – Experimental
- Waste Plastic - Recycle, Reuse and Remediation Strategies
- Design and Analysis of Carbon Capture and Negative Emissions Technologies – Models
- Innovative CO? Mitigation Strategies: Engineering, Industrial, and R&D Solutions for the Energy and Power Sector
- Microplastics Contamination: Environmental Impact
- Design and Analysis of Sustainable GHG Emissions Control Technologies
- Environmental Issues involving Biochar
- Microplastics: Pollution and Treatment

Wednesday November 5, 2025

- Environmental Impacts of the Pharmaceutical Industry
- Water Reuse and Recycling
- Advanced Treatment Technologies for Water - Degradation and Adsorption
- Atmospheric Chemistry and Physics: Laboratory, Modeling, and Field Studies
- Advanced Treatment Technologies for Water - Bioreactors and Membranes

Thursday November 6, 2025

- Building Sector: Advances in Materials and Processes for Reduced Environmental Impact
- Fundamentals and Applications for Waste Treatment and Valorization
- Municipal Solid Waste Management and Valorization: Waste Management Techniques
- Sustainability Fundamentals and Metrics Applications
- Advances in Environmental Chemical Engineering for Sustainable Maritime Activities: Fuels, Emissions Control, and Innovative Technologies
- Municipal Solid Waste Management and Valorization: Mechanisms and Modeling

Is Professional Engineering Licensure Necessary or Recommended for Chemical Engineers Practicing in the Environmental Space?

Within the last month, one of our directors, David Russell, posed a question to numerous Environmental Division members about the importance of PE licensing for chemical engineers, and a number of our experienced members provided responses to David. David's two specific questions that he posed were (a) how many of us are PEs, and (b) if in academia, do you or your department promote pursuing the PE license for BS ChEs? David indicated his interest on this subject arose from attending a meeting of the Georgia Society of Professional Engineers. David reported that the consensus of persons at the Georgia meeting was that licensing is not important for chemical engineers and is not encouraged as part of a chemical engineer's career path.

Here is a short summary of the responses provided to David from some of our environmental division members. One respondent related that, at the beginning of his career, there existed in some jurisdictions exemptions for chemical engineers from PE licensing requirements. Two consultancy respondents related that the specific type of consulting work they do has not required them to have a license. However, amongst the group of respondents, three others in the consultancy business have their PE license and have either found having the license necessary or very helpful in the work accomplished over the years. Two of the respondents in the group that do not have their PE license indicate they would obtain the license if given the chance to do it over again. Amongst the three academics in this group, all suggest that new BS ChE graduates should be encouraged to work towards the license, starting with taking the FE exam at or near completion of their degree or very soon afterward. One of the academic persons indicates they require all their graduates to take the FE exam. Many of the respondents indicated that the PE license can serve as a differentiator in seeking employment, and that it is looked upon favorably by employers.

This is based on an initial inquiry from Dave Russell and contributions from Dick Siegel, Bob Weber, Mary Ellen Ternes, Teresa Murray, Kurt Rindfusz, Heriberto Cabezas, and Matt Alexander, all of whom are long time environmental division members. In this group, the vast majority have consulting engineering or regulation-related experience, while three have academic experience. Comments compiled here by Matt Alexander.