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2 AEESP News
10 Member News

Presidents Letter

By ALLISON MACKAY
The Ohio State University

“You need to have a plan.” This was classic advice dispensed by my dad while I was growing up. Today, he sure would be proud of AEESP! As I put this letter together, I found myself reflecting that it has been two years since a large group of our organization came together to chart a clear path for how AEESP may better service its membership. Creative and continued planning by AEESP Committees through the 2022-2023 year has provided great initiatives, including highlights of:

- Coordination of the Junior Faculty Mentor Program that receives enthusiastic support from senior environmental engineering and science faculty willing to share their time and wisdom (Membership and Demographics Committee).
- Support for AEESP members to bring science-informed insight to policy through a successful virtual coffee hour highlighting member engagement in policy work and by assistance to advance nominations to national science boards (Government Affairs Committee).
- Simplification of the award nomination process, resulting in increased nominations for consideration across faculty and student AEESP award categories (Awards Committee).
- Sustaining connections with our student members through continuation of the fall Future Faculty webinar series and the coming spring Industry Career series (Student and Post Doc Services Committee).
- Streamlining the AEESP Foundation Board succession plan and partnering with a fiduciary service to optimize growth of the Foundation endowment through investment principles that align with AEESP values (AEESP Foundation Board).
- Developing strategies to maintain the strong fiscal position of AEESP through future modest increases in revenues as national inflationary factors impact organization expenses (Board).
- Thoughtful preparation for the regularly schedule 2023 AEESP Research and Education Conference that builds upon popular features by adding new elements to keep excitement after a pandemic-delayed 2021 event. This will include workshops by other AEESP Committees not highlighted specifically here (Conference Planning Committee).

Through each of these activities, it is critical that they provide value to each of our members, no matter their social identity, their technical area of expertise, or the role that they play at their type of academic institution. AEESP membership in the ACCESS+ (Amplifying the Alliance to Catalyze Change for Equity in STEM Success) initiative allowed us to undertake an equity scorecard exercise that has set the path for two initiatives. First is the collection of improved quantitative data to better inform ourselves about who is our membership – many thanks to each of you who filled out the demographic survey with your 2023 registration. Second is the receipt of a small grant from the ACCESS+ team to engage a professional facilitator to assist us to imbend an inclusive lens that builds upon awareness of social identity within our individual AEESP Committees. We look forward to sharing the outcomes with you at the 2023 Conference and to chart a plan continued on next page
for next year on the strong foundation of diversity awareness existing within AEESP.

I continue to be grateful for the dedicated contributions of our all-volunteer organization to share our collective career knowledge, to communicate our scholarship to stakeholders, and to develop the environmental engineering and science workforce. I look forward to seeing you in Boston in June!

Follow AEESP on Social Media!

Hello AEESP Members! My name is Courtney Gardner and I'm an Assistant Professor at Washington State University and AEESP Internet Resources Committee Chair. Last year, AEESP experienced some big shifts in our online footprint, with the redevelopment of our flagship website and the expansion of our social media presence. In 2023, we want to keep that trajectory going with greater involvement by you, our members, in achieving three strategic goals:

- **Follow us on Twitter and Instagram!** We want to grow our Twitter base to 5,000 followers by the AEESP 2023 conference and 10,000 over the next year. Follow us and get your friends, colleagues, relatives, and even pets to do the same (I'm looking at you, Nessie!). We've already rolled out photo contests and other social media-exclusive announcements as part of our plan to increase member engagement. Don't miss out! Visit our pages and follow us on Twitter and Instagram, both @AEESProfs.

- **We want to hear from you.** Answer an anonymous one-question survey to help shape the future of AEESP’s social media presence: [https://forms.gle/AGRxUCNKEqFYMj7](https://forms.gle/AGRxUCNKEqFYMj7)

- **We want to see your EES work in action.** Tag #aeesprofs in your next Instagram conference, lab, or group post. February’s best #ResearchSuperstition post will receive an AEESP-wide Instagram shoutout in return!

**Did You Know?**

AEESP currently maintains a presence across multiple prominent social media platforms. In addition to our Twitter page, AEESP also has pages in Facebook, Instagram, YouTube, and LinkedIn (*Sorry TikTok*!). Regardless of your preferred social media platform, we encourage you to join us!

**Contact Us**

The Internet Resources Committee always welcomes your thoughts and suggestions via email at webmaster@aeesp.org. We look forward to hearing from you!
2023 Research and Education Conference Update

By Phil Larese-Casanova and Amy Mueller, Northeastern University

The 2023 AEESP Research and Education Conference is fast approaching, and the Planning Committee wants to encourage everyone to be thinking about making plans to attend. Northeastern University is proud to host the event at its Boston campus in collaboration with universities from across New England, and the whole Committee is looking forward to welcoming the community to this great city!

The conference will begin on Tuesday, June 20, with morning and afternoon workshops; however, this year we are introducing a few innovations into the program. To enable attendees to participate in more workshops, additional targeted workshops will be scheduled for the mornings of Wednesday, June 21, and Thursday, June 22. Attendees can expect a variety of workshops on professional development, updates on research methodologies, transdisciplinary and collaborative initiatives, and new approaches to instruction. A full schedule of workshops will be available on the conference website in early February. To support student career development, Tuesday midday (between workshops) will include a career fair / industrial mixer. Please pass on this opportunity to any organizations who might be interested in attending! Tuesday afternoon we will also be piloting a new Community Outreach element, providing an opportunity for conference attendees to “Get Involved and Give Back,” in collaboration with Boston-area non-profits and with Northeastern’s Center for STEM Education. Tuesday’s schedule will conclude with an evening welcome reception with finger foods and a keynote speaker. Two social events will follow: a Student Social is planned for students and postdocs at a nearby gaming and entertainment venue (bowling, arcade, and lots of fun!), and a Faculty Mixer will take place in a beautiful location on campus to provide opportunities to mingle with colleagues, AEESP committees and Board members, and AEESP Sponsoring Members.

Wednesday and Thursday will feature the traditional excellent and varied technical presentations where our community’s work will shine through oral sessions (am/pm) and extended afternoon poster sessions. The conference theme, “Responding Together to Global Challenges,” reflects the many contributions environmental scientists and engineers are making to address concerning global, historical, and emerging challenges to living in a healthy, safe, and just society. The technical program will have tracks tackling challenges of a changing climate, emerging environmental quality and human health threats, aging infrastructure and networks, marginalization of communities, evolving education demands, and emerging topics to be identified through the abstracts submitted. Each morning will begin with plenary panel discussions aligned with the conference theme. Wednesday’s panel will address “Accelerating implementation of environmental sustainability through financial and policy incentives,” where experts will discuss how sustainability solutions and environmental engineering technologies can promise and produce real and measurable impacts and how market solutions can support those innovations. Thursday’s panel, “The evolving role of environmental engineers...
and scientists in the context of climate change,” will articulate what is needed from our community now and in the long term, based on lessons learned from decades of climate change research, adaptation, and a new vision for this century.

Wednesday and Thursday noontimes will also include special lunch programs and plenty of opportunity for networking! A mentoring lunch will connect junior, mid-level, and senior faculty for informal discussion and sharing, and an “NSF Q&A” lunch will provide an opportunity for attendees to learn more about a wide variety of programs and initiatives directly from program officers from the National Science Foundation. The Business and Awards Gala will take place on Wednesday evening at the New England Aquarium, a fantastic venue just a short transit ride from campus, where we can dine and interact with our marine friends. The Planning Committee is working on some special “backstage” access and events for the evening as well. Thursday’s events will conclude with a closing reception via outdoor picnic for us to enjoy the summer evening as well. This conference will be a fantastic opportunity to expand your knowledge, network with colleagues – old and new - and gain valuable insights to the wide variety of work that encompasses our collective field of study. On behalf of the Planning Committee and the consortium of New England universities organizing the conference, we hope to see you there!

Registration for the conference will open in mid-March. The registration process will provide attendees with a full schedule of events and will be the opportune time for signing up for all mixers, galas, field trips, workshops, and community outreach events. Please stay tuned for further announcements of conference activities through the AEESP listserv and via twitter (@AEESP2023_NEU). The conference website (https://aeesp2023.sites.northeastern.edu) will be continually updated with more information in the coming weeks.

This conference will be a fantastic opportunity to expand your knowledge, network with colleagues – old and new - and gain valuable insights to the wide variety of work that encompasses our collective field of study. On behalf of the Planning Committee and the consortium of New England universities organizing the conference, we hope to see you there!
“Student and PostDoc Services Committee” (cont.)

Hunt (University of Nebraska – Lincoln), Charlie Werth (University of Texas at Austin), Lee Blaney (University of Maryland Baltimore County), and Kyle Bibby (University of Notre Dame).

The AEESP SPSC is planning an industry-oriented seminar series (to be held on Zoom) for Spring 2023, and another exciting Future Faculty series in Fall 2023. We wish all the Fall 2022 “Future Faculty” seminar speakers the best of luck in their academic job pursuits!

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**AEESP Foundation Board welcomes two new members and streamlines the Board election process**

*Dr. Jennifer Becker, Chair of AEESP Foundation, Michigan Technological University*

In December, 2022, the AEESP Foundation Board of Directors elected two new members, Dr. Susan Masten (Michigan State University) and Dr. Shannon Bartelt-Hunt (University of Nebraska-Lincoln), who began their three-year terms in January, 2023. Dr. Bartelt-Hunt was elected from the general AEESP membership. Dr. Masten was elected as a member of the AEESP Board of Directors. Dr. Masten was also elected Secretary of the Foundation Board. Most AEESP members are probably aware of the process of electing AEESP Board members but are less familiar with the AEESP Foundation Board election procedures.

In fact, as part of its efforts to update its administrative and operating practices, the Foundation Board is continuing efforts to restructure and streamline the Foundation Board election process initiated by past AEESP Presidents Karl Linden and Bill Arnold. The Foundation Board by-laws specify that three of its directors are to be members of the AEESP Board of Directors at the time of their election to the Foundation Board. The remaining three Foundation Board members are typically elected from the general AEESP membership.

The current practice is that the AEESP Board nominates its Treasurer and Chief Information Officer (CIO) in alternating years to serve on the Foundation Board. Traditionally, the AEESP Treasurer serves on the Foundation Board for one year before being elected Treasurer of the Foundation Board and serving in this position for two years. Pending approval by the AEESP Board, the AEESP CIO will serve on the Foundation Board for one year before being elected Secretary of the Foundation Board for the following two years.

In 2022, the Foundation Board also piloted a new approach for electing a member from the general AEESP membership with the intention that this member will serve as AEESP Foundation Chair in the third year of their Board term. Self-nominations were solicited from AEESP members with a strong history of involvement with, and service to, AEESP; the ability to dedicate the time needed to complete the work of the Foundation; strong organizational and leadership skills; and the willingness to ultimately serve as Foundation Chair. The AEESP Foundation was very pleased to receive several strong self-nominations from well-qualified candidates in 2022. The next request for self-nominations of prospective Board members from the general AEESP membership will be issued in Fall, 2023.

The Foundation Board welcomes Drs. Bartelt-Hunt and Masten and thanks Drs. Stephanie Bolyard (North Carolina Department of Environmental Quality) and Karl Rockne (University of Illinois at Chicago) for their dedicated service on the Board during the past three years!
AEESP Foundation appreciates and recognizes the generosity of all who donated in 2022!

Dr. Jennifer Becker, Chair of AEESP Foundation, Michigan Technological University

The AEESP Foundation works to enhance the public outreach and education efforts of AEESP members and encourage excellence in environmental engineering and science education and research. The Foundation accomplishes this mission, in part, by providing stewardship of the financial resources needed to support the AEESP Distinguished Lecturer Series and AEESP Awards. In recent years, the Foundation has worked to endow several awards, including the Edward J. Bouwer/AEESP Outstanding Doctoral Dissertation Award, which was announced last year and will be awarded for the first time in 2023. Endowing the AEESP awards ensures that the AEESP Foundation can continue to provide non-taxable cash awards and travel stipends to award recipients.

The AEESP Foundation is thankful to all of the individuals who have played key roles in fundraising efforts over the years. We are also grateful to all of the individuals who generously donated to the AEESP Foundation in 2022. Individuals who donated to the AEESP Foundation in 2022 are listed below in alphabetical order:

William Arnold, University of Minnesota - Twin Cities
William Ball, Johns Hopkins University
Jennifer Becker and Eric Seagren, Michigan Technological University
Lee Blaney, University of Maryland - Baltimore County
Agnes Bouwer
Patricia Bouwer
Treavor Boyer, University of Arizona
Theresa and Roy Brower, Johns Hopkins University School of Medicine
Christopher Brueck
Paul Chadik, University of Florida
Gordon Cobb, Ramboll
Michael Dodd, University of Washington
Laura Ehlers, The National Academies
Menachem Elimelech, Yale University
Howard Fairbrother, Johns Hopkins University
Donna Fennell, Rutgers University
Jim Flegenheimer and Annette Bouwer Flegenheimer
David Freedman, Clemson University
Dan Giammar, Washington University in St. Louis
Sudha Goel, Indian Institute of Technology Kharagpur
Jeremy Guest, University of Illinois at Urbana-Champaign
Claudia Gunsch, Duke University
Larry and Lori Hartsook
Benjamin Hobbs and Julie McDill, Johns Hopkins University
Kerry Howe, Howe Water Science, LLC
Raymond Hozalski, University of Minnesota Twin Cities
Heileen Hsu-Kim, Duke University
Tom and Michelle Hundt, Atlantic Environmental Consulting Services, LLC
Timothy Johnson, Oregon Graduate Institute of Science & Technology
Edward Kolodziej, University of Washington
Stephanie Lau, Stanford University
Cindy Lee, Clemson University
Allison MacKay, The Ohio State University
Susan Masten, Michigan State University
Michael McCormick, Hamilton College
Junko Munakata Marr, Colorado School of Mines
Kara Nelson, University of California, Berkeley
Thanh Nguyen, University of Illinois at Urbana-Champaign
Paige Novak, University of Minnesota Twin Cities
Mira Olson, Drexel University
Gene Parkin, University of Iowa
Spyros Pavlostathis, Georgia Institute of Technology
Alan Rabideau, University at Buffalo
Bruce Rittmann, Arizona State University
A. Lynn Roberts and David Schneider, Johns Hopkins University
Debora Rodrigues, University of Houston
Jerald Schnoor, University of Iowa
Arup SenGupta, Lehigh University
Alan Stone, Johns Hopkins University
Timm Strathmann, Colorado School of Mines
Peter Strom, Rutgers University-Cook Campus
James Symons, University of Houston
John Tobiason, University of Massachusetts Amherst
John Veenstra, Oklahoma State University
Peter Vikesland, Virginia Tech
Mandy Ward
Mark Wiesner, Duke University
Zhifeng Yan, Tianjin University
Yaqi You, SUNY College of Environmental Science and Forestry
Wei-xian Zhang, Tongji University
The AEESP Foundation also acknowledges the generous donations of the following organizations:

AEESP
Levine, Blaszak, Block & Boothby, LLP
TechCaliber Consulting, LLC
Whitman, Requardt & Associates, LLP

In addition to the above individuals and organizations who made financial contributions, several individuals supported the AEESP Foundation by opting to not receive an AEESP / AEESP Foundation plaque (valued at ~$100) in recognition of their accomplishments or service to AEESP or the AEESP Foundation. These savings were then reallocated to an award endowment fund or the AEESP Foundation general operating fund. We express our gratitude to the individuals who supported the AEESP Foundation in this way and are listed below in alphabetical order:

William Arnold, University of Minnesota Twin Cities
Kevin Finneran, Clemson University
Dan Giammar, Washington University in Saint Louis
Jackie MacDonald Gibson, North Carolina State University
Kelvin Gregory, Carnegie Mellon University
Willie Harper, Air Force Institute of Technology
Linsey Marr, Virginia Tech
Sanjay Mohanty, University of California, Los Angeles
Robert Nerenberg, University of Notre Dame
Paige Novak, University of Minnesota Twin Cities
Michelle Scherer, University of Iowa

To learn more about the AEESP awards, including their endowment status, please visit https://aeespfoundation.org/awards. To make a contribution to the AEESP Foundation via credit card, please https://aeespfoundation.org/donate or contact Brian Schorr by email at bschorr@aeesp.org or via telephone at 202-640-6591 ext. 309. To donate stock to the AEESP Foundation, please contact AEESP Foundation Chair Jennifer Becker at jegbecker@mtu.edu.
The “Spotlight” column draws attention to selected articles in *Environmental Engineering Science* (EES), the official journal of the Association of Environmental Engineering and Science Professors (AEESP). Spotlight articles appear three times per year in the journal as well as in the AEESP newsletter. Through the publication of high-quality peer-reviewed research, the EES journal helps AEESP achieve its mission of developing and disseminating knowledge in environmental engineering and science. In this entry we shine the spotlight on selected articles from the August through November 2022 issues of EES. Congratulations to all whose work is highlighted.


Horizontal gene transfer is known to occur among diverse bacterial species, potentially leading to spread of species that are resistant to antibiotics and metals in the environment. Amirsoleimani et al (2022) investigated the presence of select metal resistance genes (MRGs) from Staphylococcus aureus and other staphylococci in wastewater treatment plants and the associated environment. They showed that MRGs carried in treatment plant influent S. aureus isolates could be detected in effluent S. warneri isolates and other bacterial isolates from the creek sediment that receives the plant effluent. The study calls for redesigning the wastewater disinfection process to fully deactivate disinfection-resistant microorganisms and bacteriophages, so the horizontal transfer of resistance genes to sediment microorganisms can be prevented.


In municipal wastewater treatment plants, waste activated sludge is stabilized by the anaerobic digestion process, in which particular chemical oxygen demand (COD) is hydrolyzed, fermented to fatty acids, and finally converted to methane. While the first-order methane production rate represents well the kinetics of hydrolysis - the rate limiting step in this sequence - this simple approach is not adequate when the waste activated sludge is pretreated by, for example, thermal and alkaline treatment. Hart et al (2022) conducted a batch experimental study and reported the rate expressions that could well account for hydrolysis and soluble COD accumulation resulting from pretreatments. Their results showed that ultimate methane production was significantly increased by alkaline and thermal pretreatments.


Three papers in this “spotlight” column are related to life cycle assessment (LCA). Miranda et al (2022) examined a trap-extract-precipitate process through laboratory-scale experiments to recover rare earth elements (REEs) from coal mine drainage. Techno-economic assessment and life cycle assessment suggested that water treatment recovery of REEs from plant sludge is more economic than from stabilized flue gas desulfurization material and more beneficial to the environment. These differences are largely attributable to the larger neutralizing capacity of water treatment plant sludge in the proposed trap-extract-precipitate process. To evaluate the environmental impact of manure from concentrated animal feeding operations (CAFOs), Glover et al. (2022) conducted an LCA study to compare conventional manure management practices with a nutrients, energy, and water innovations for resource recovery (NEWIR) system. The conventional-practices baseline involves long-term storage in lagoons and solid piles followed by land application; the NEWIR system consists of (1) hydrothermal carbonization for energy recovery, (2) algae cultivation for nutrient recovery, and (3) membrane distillation for water recovery. Their results show that NEWIR could vastly reduce nutrient release to the environment and also reduce global warming potential, although more water is needed in support of algae cultivation. In another study, Bozeman III et al (2022) explored how to incorporate social equity into LCA and the need to collect standardized sociodemographic data in support of social life cycle assessment (S-LCA). The concept of systemic equity (i.e., ostensible, aspirational, and exploitative equity) is presented and ten steps for sociodemographic data standardization is proposed.


Teaching is a primary duty for AEESP members. Oerther (2022) shared his approach in teaching two environmental engineering courses, Environmental Systems Modeling and Environmental Engineering Design, at the Missouri University of
“Spotlight“ (cont.)

Science and Technology, using modified mastery learning as a conceptual framework for students to learn sustainability and life-cycle principles. Course content and modules are presented in detail. The results based on course assessments suggest that the modified mastery learning approach is effective for student learning.

In Memoriam: Dr. G. Fred Lee
Submitted by Patrick L. Brezonik, Professor Emeritus, University of Minnesota, Nicolas Clesceri, Professor Emeritus, Rensselaer Polytechnic Institute, and Joseph Delfino, Professor Emeritus, University of Florida

G. Fred Lee, one of a pioneering group of leaders in the development of modern water chemistry, died October 15, 2022 at the age of 89. A native of Delano, California, Lee received a B.S. (environmental health science) from San Jose State University, an M.S. (public health) from the University of North Carolina (Chapel Hill), and Ph.D. (environmental engineering and science) from Harvard University (1960). His Ph.D. work on the kinetics of chlorination of phenol, under advisor, J. Carroll Morris, was a landmark paper in the early days of water chemistry. His postdoc work with Werner Stumm on FeII autoxidation kinetics laid the groundwork for modern research on iron chemistry and remains a highly cited water chemistry paper. Lee's career was divided between graduate-level education and environmental consulting. In the former capacity, he developed the Water Chemistry Program at the University of Wisconsin (Madison) in the early 1960s. The program was an early example of the now common interdisciplinary character of many graduate education programs. It stressed the idea that effective research on water systems required expertise in both fundamental chemistry and knowledge across the broad range of its “overlapping academic neighbors” in the environmentally-related sciences. Lee himself mentored approximately 90 M.S. and Ph.D. students during his 30-year academic career at a number of major U.S. universities. Always interested in applying his knowledge to solving practical problems, Lee retired from his academic career in 1989 to devote full-time to environmental consulting. Along with his wife, Anne Jones Lee, he established G. Fred Lee & Associates, which focused on domestic water supply water quality, management of surface and groundwater quality, including stormwater runoff, contaminated sediments, and land surface activities that impact groundwater. For many years they authored and distributed an email-based Stormwater Runoff Water Quality Newsletter. G. Fred Lee was fellow of the ASCE and a diplomate of the AAEES. We remember him fondly as our graduate advisor, whose work ethic and drive served us well in our own careers.
Clemson University launches new School of Civil and Environmental Engineering and Earth Sciences
Submitted by Clemson University

Clemson University announced it has named a director for a new school that brings together its civil engineering, environmental engineering and Earth sciences talent to help clear a path for seamless collaboration that leads to high-impact research and transformative educational experiences.

Jesus M. de la Garza stepped down as chair of Clemson’s Glenn Department of Civil Engineering to serve as the founding director of the School of Civil and Environmental Engineering and Earth Sciences.

Clemson President Jim Clements said Dr. de la Garza is a visionary leader who will excel in leading the School of Civil and Environmental Engineering and Earth Sciences.

“Jesus’ ability to build high-performing teams and foster collaboration across disciplines and institutions allows him to broaden interdisciplinary connections and increase the diversity and reach of our talented faculty, staff, and students,” he said. “His record of success and broad range of experiences make Jesus the ideal choice to lead the school. I know Jesus will excel in his new role, and I offer him my deepest congratulations.”

de la Garza is the top administrator in a school with about 750 students and 58 faculty members, making it one of the state’s largest academic units and a major source of engineering and science talent. The school is the umbrella organization for the Glenn Department of Civil Engineering and the Department of Environmental Engineering and Earth Sciences, a structure approved in spring 2021 by the Board of Trustees.

“Bringing these departments closer together better positions us to build and promote our reputation for impactful research and educational experiences, while giving us a larger platform to contribute to national policy decisions concerning the built and natural environments,” de la Garza said. “The multidisciplinary research ecosystem we are creating in collaboration with other universities, industry and national research laboratories will be a magnet for some of the globe’s most talented faculty, students and staff.”

The school will focus on four research thrusts: the surface and subsurface, the Earth’s ecosphere, smart city service and resilient communities.

Angie Leidinger, senior vice president for external affairs and senior advisor to the Board of Trustees, said the school will be a vital source of talent for South Carolina and beyond.

“The school will be key in meeting the public and private sectors’ need for engineers and scientists who solve complex sustainability and infrastructure challenges,” she said. “The $1.2-trillion Infrastructure Investment and Jobs Act underscores the huge demand the nation faces, making this an ideal time to launch the school.”

Robert Jones, executive vice president for academic affairs and provost, said the school is a rich environment for innovative academic programming.

“The school embraces the core of the University—our students,” Jones said. “Jesus has presented an inspiring vision for creating multidisciplinary, student-centered experiences that prepare them to address society’s challenges, thereby improving living standards for all. I congratulate Jesus and look forward to supporting him and the entire school.”

Jennifer Ogle was promoted from associate chair to chair of the Glenn Department of Civil Engineering after de la Garza vacated the seat. David Freedman continues to serve as chair of the Department of Environmental Engineering and Earth Sciences, a position he has held since 2014.

Ogle and Freedman said they look forward to working with de la Garza in his new role.

“It has been a pleasure to serve side-by-side with Jesus to take the Glenn Department of Civil Engineering to greater heights,” Ogle said. “His leadership has been key in opening new opportunities for students and the faculty, helping create future alumni who stay in touch and provide both time and treasure to their alma mater.”

Freedman said he will work with de la Garza to strengthen the school’s impact on environmental sustainability and the University’s status as a Carnegie R1 research institution.

“Jesus is an innovative scholar and educator who has helped new
avenues for students of all backgrounds to achieve their highest potential,” Freedman said. “I congratulate him on his new job.”

de la Garza joined Clemson as chair of the Glenn Department of Civil Engineering in August 2019 after more than three decades at Virginia Tech. In 2021 he won his highest honor, the Outstanding Projects And Leaders (OPAL) Award from the American Society of Civil Engineers (ASCE).

He is a Distinguished Member of ASCE, a member of the National Academy of Construction and a Fellow of the Construction Management Association of America.

de la Garza’s research focus is on project controls, construction safety, innovative project delivery mechanisms, such as flash tracking, and infrastructure asset management.

Academy Webinars Available for Classroom Use
Submitted by Dr. James Mihelcic, University of South Florida

I was listening to a recent American Academy of Environmental Engineers & Sciences (AAEES) webinar on “Plastics: Hero or Villain When We Manage Their Afterlife?” What struck me during the presentation was how appropriate this 50-minute presentation would have been for my fall semester environmental engineering class (either as an in-class or out-of-class presentation).

Academy webinars are a wonderful way to bring practitioners, their perspectives, and up to date information into our classrooms. They also cover a wide variety of topics. For example, recent webinars have addressed issues such as Brownfields, Climate Change, Management of Organic Wastes, and Operating PFAS Treatment Systems.

Most webinars have a PDF of slides available in the Academy’s library and about a month after the webinar airs, they post the link to the recording there as well. These materials are available to anyone for free.

And remember, Academy members and students can attend webinars at no cost. Non-students who are not members can view webinars in real time at a small cost. Upcoming and past webinars are available for viewing online.

Learn more at: https://www.aaees.org/aaeeswebinarslibrary
University of Nebraska-Lincoln Civil and Environmental Engineering (UNL CEE) Welcomes Three Faculty Members

Dr. Kaycie Lane has joined UNL CEE in Fall 2022 as an Assistant Professor of Practice in the Environmental Engineering program. Dr. Lane received her Ph.D. from Dalhousie University in Water and Resource Engineering. She has a B.Sc. in Engineering Physics from Colorado School of Mines, with a double minor in Biology and Humanitarian Engineering. She completed postdoctoral research at the University of Massachusetts Amherst. Her work focuses on assessing risk and sustainability of environmental engineering systems in small, rural and developing communities.

Dr. Didier Mena Aguilar joined UNL CEE in Fall 2022 as a Lecture of Environmental Engineering. Dr. Mena Aguilar received his Ph.D. and M.Sc. in Biochemistry from Virginia Tech, and his B.Sc. in Biotechnology Engineering from the Costa Rican Institute of Technology. His doctorate dissertation focused on studying how pipe material and water chemistry influence growth of the opportunistic pathogen L. pneumophila in drinking water environments. His main areas of interest are opportunistic pathogens in drinking water and affordable active learning in the classroom.

Dr. Nirupam Aich joined UNL CEE in Spring 2023 as an Associate Professor of Environmental Engineering. Previously, Dr. Aich was an Assistant Professor of Environmental Engineering at the University at Buffalo (SUNY). Dr. Aich received his Ph.D. in Civil Engineering from the University of Texas at Austin in 2015, M.S. in Civil Engineering from the University of South Carolina in 2012, and B.Sc. in Chemical Engineering from Bangladesh University of Engineering and Technology in 2009. His research focuses on developing advanced materials and processes for water treatment and reuse as well as remediation of emerging contaminants including PFAS. Dr. Aich is the recipient of National Science Foundation (NSF) CAREER Award 2022, American Academy of Environmental Engineers & Scientists (AAEES) 40 under 40 Recognition Class of 2022, and 2019 Sustainable Nanotechnology Organization (SNO) Emerging Investigator Award.

The University of Miami Welcomes Dr. Chang-Yu Wu as its inaugural chair of the Department of Chemical, Environmental and Materials Engineering

Dr. Chang-Yu Wu joined the newly formed Department of Chemical, Environmental and Materials Engineering as Professor and Chair on Jan 1, 2023. The vision of the new department is to cultivate future cadets who enable sustainability and human health through next-generation chemical processes and materials. Before joining UM, Dr. Wu was Professor in the Department of Environment Engineering Sciences at the University of Florida. His teaching and research interests range from aerosol science, air pollution control, environmental nanotechnology, and engineering education. He has published more than 160 refereed journal articles with 9800+ citations, and 80+ invited lectures. His research has resulted in 9 US patents and 3 pending applications. Dr. Wu received his B.S. from Department of Mechanical Engineering at National Taiwan University and both M.S. and Ph.D. from Department of Civil & Environmental Engineering at University of Cincinnati in 1996.
Relaunch of Water X as a top-ranking, independent, open access journal

Water Research X (WRX) is emerging from the umbrella of its partner journal, Water Research (WR). WRX was established in 2018 and had since been sharing the WR Editorial Board and handled by the same team of Editors, with neither editors nor reviewers knowing which journal a manuscript was being considered for. In 2022, Water Research X received its first impact factor of 9.365, ranked fourth most impactful water research journal. Now, WRX is branching out as an independent journal that publishes high-quality and ground-breaking water research, with competitive times-to-publication.

WRX is aiming for fast publication times, with an average handling time of just over a month. The editorial board also aims to make pre-review decisions within one week.

Another standout feature of WRX is that it provides new formats for authors to publish concise but complete and novel papers. Its narrative-based ‘Leading Edge Research Papers’ are distinct from those in other journals and allow complete, innovative research to be published in a timely and succinct manner. WRX also hopes to feature insightful perspectives and editorials along with critical mini-reviews of the latest developments in emerging or fast-evolving research areas.

WRX is a gold open access journal. All accepted papers are freely and immediately accessible to all potential readers. This gives authors a path to reach a wider readership and for research to have a higher impact.

WRX now has a new Editorial Board comprising an Editor-in-Chief, five Editors, and over 20 Associate Editors who collectively offer outstanding expertise across the entire journal scope. Editor-in-Chief, Professor Zhiguo Yuan, is a world-leading researcher in urban water management. The other Editors include Professor Treavor Boyer, Professor Xia Huang, Professor Wolfgang Gernjak, Dr. Peter Bach, and Dr. Yujie Men. Each offers outstanding and complementary expertise in areas across the journal’s scope.

Moving forward, WRX aims to be a leading international journal influencing both the fundamental and applied aspects of water science and technology. WRX continues to have the same scope as WR, welcoming contributions on all aspects of the science and technology of the anthropogenic water cycle, water quality, and its management worldwide.
The protection of our aquatic resources is growing in importance as the effects of climate change and continued urbanization are felt throughout the world. While most rain that falls onto vegetated spaces infiltrates the soil, rain that falls onto impervious surfaces will not, increasing downstream flooding and erosion and causing impaired water quality. Impervious surfaces such as road infrastructure, rooftops, and parking areas all increase runoff and mobilize many pollutants that have deposited on the surfaces that are then carried into our waterways. Proper management of this stormwater through green infrastructure is essential to address these challenges and reduce the environmental and ecological impacts brought about by this runoff.

This book brings into focus resilient stormwater control measures (SCMs) for the reduction of stormwater flows and associated pollutants that can detrimentally impact our local environmental and ecological systems. These interventions are green infrastructure based, utilizing natural hydrologic and environmental features using soil and vegetation to manage stormwater. These technologies include water harvesting, bioretention and bioinfiltration, vegetated swales and filter strips, permeable pavements, sand filters, green roofs, and stormwater wetlands, among others. The basic science and engineering of these technologies as discussed, including performance information and best maintenance practices.
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The Carollo Research Group’s in-house team of innovators is dedicated to tackling water’s most challenging issues. We pioneer technologies, best practices, and need-based solutions that seek to change the world by first changing how each of us sees and works with water. By putting you at the center of everything we do, we build on what we know, envision what could be, and minimize the risks and costs that come with charting new territories.

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From TRL1 to TRL4: Development of the ICARUS Floating Membrane Photobioreactor for Direct Algae Cultivation in Wastewater

Dr. Daniel Yeh is a Professor in the Department of Civil and Environmental Engineering at the University of South Florida and the PI of the Membrane Biotechnology Lab. He is also a visiting professor at NASA Kennedy Space Center and co-founder of the cleantech startup BioReNEW, Inc.

The reservation deadline is April 1, 2023. Please indicate on the form your preferred date(s). Reservations are on a first-come, first-served basis! We will do everything possible to accommodate your first priority date. The fee for hosting the Kappe Lecture Series is $550 for a virtual visit and $1,225 for an on campus visit.

More details and an application form can be found at: https://www.aaees.org/index.php?option=com_content&view=article&id=130:kappelecturer&catid=20:site-content

Inaugurated by the American Academy of Environmental Engineers and Scientists in 1989, the Kappe Lecture Series offers the opportunity to share the knowledge of today’s practitioners with tomorrow’s environmental engineers and scientists. This program was inspired by a grant from the estate of Stanley E. Kappe, P.E., DEE. Mr. Kappe served as the Academy’s Executive Director from 1971 to 1981 and envisioned effective cooperation between professors and practitioners in the education of future engineers and scientists.
I have to begin by stating I have traveled in Bolivia and Guatemala with the book’s author working on water/sanitation projects. With this said, I am thankful there is a book that provides the correct blend of theory and field experience to support the many practitioners and students who want to design, construct, operate, and maintain an appropriate wastewater system in a low- or middle-income setting.

Two things stand out about this book. First, what makes the book so valuable is the decades of engineering experience that Professor Stewart Oakley brings to each chapter. The book is like a Lonely Plant Travel Guide for environmental health engineers based on decades of experience the author gained working in Africa, Latin America, Europe, Australia/New Zealand and the U.S. The book’s second important feature is that it is based on the paradigm of integrated wastewater management, where the purpose of treatment is to protect human health by reducing pathogens to produce an effluent that is valorized for its embedded fertilizer and water value for agriculture and aquaculture. Methane production as a sustainable energy source is also considered for those applications where it is appropriate.

The ten chapters are well organized and the text, tables, and figures make everything easy to follow. Important, there are numerous design and case study examples. Photos from the author’s extensive collection allow a reader to visualize what sanitation engineering looks like in the real world. Readers will find the theory is based on understandable engineering fundamentals. That theory then supports the book’s design components. Technologies covered include screening, grit removal, rock filters, and various types of waste stabilization ponds. Other items covered include sludge accumulation and removal, geotechnical investigations, and hydraulic conditions.

I read once that blending wines make the final product more complex. In the case of this book, the blending of theory, design, and Professor Oakley’s extensive experience turns a complex problem into something manageable. I say embrace this book and the author’s vision of integrative wastewater management. Then partner with others to help the world achieve multiple Sustainable Development Goals related to providing improved sanitation while increasing water and food security.


An open access copy of the book can be downloaded here: https://library.oapen.org/handle/20.500.12657/59296
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