American Ecological Engineering Society

AEES QUARTERLY

Official Newsletter of the American Ecological Engineering Society

Twelfth Edition | Winter 2025

ECOLOGICAL ENGINEERING IN ACTION

University of Vermont's (pictured from left to right) Victoria Horton (UVM undergraduate), Xia Gillespie (UVM undergraduate), Audrey Sawyer (UVM undergraduate), and Tiffany Chin (UVM Research Coordinator) are hiking to a research site for a study focused on quantifying the water quality benefits of restored wetlands.

NEWS THIS QUARTER

CALL TO ACTION

- ☐ Submit an abstract by Feb. 28th
- ☐ Join or renew your membership for 2025
- ☐ Nominate an Executive Committee Officer
- ☐ Attend the Quarterly Webinar on Feb. 26th
- ☐ Attend the Student Lightning Talk on Feb. 27th
- ☐ Provide your feedback on the Student Design Competition
- ☐ Sign Up to be an ABET Program Evaulator
- ☐ Submit Articles for JEED Publication

PRESIDENT'S MESSAGE

By Eric Roy, AEES President, Associate Professor, University of Vermont Rubenstein School of Environment & Natural Resources | eric.roy@uvm.edu

GREETINGS FROM YOUR AEES PRESIDENT

As the winter of 2025 progresses, two recent events have caused me to reflect on what the American Ecological Engineering Society means to me.

Navigating Federal Challenges: AEES Stands with Students and Young Professionals

First, recent actions at the federal level have implications for AEES. It is important to me that AEES embraces and supports all ecological engineers, regardless of political affiliation. This is in line with our dedication to building a welcoming society where members having diverse identities can come together to share knowledge and skills, advance the field of ecological engineering, and respectfully debate topics relevant to our profession. However, another key value of AEES is enthusiastic and unwavering support for diverse students and young professionals, who are the future of ecological engineering.

With that in mind, I have found the news of exceptional young scientists and engineers across the federal government being indiscriminately and rapidly fired for supposed "poor performance" both shortsighted and cold. While it is obvious that these actions have simply taken advantage of contract terms for probationary periods to rapidly reduce the federal workforce, I expect receiving a termination notice citing "poor performance" must be awful. Furthermore, recent White House actions attempting to freeze federal funding have unsettled many in our society, including students whose stipends and research depend on federal dollars.

So what can AEES do? I have a few ideas. First, let's double down on our commitment to the future by doing whatever we can to support our students and young professionals. If you are a student or young professional that has suffered job loss or funding loss, please reach out to me directly. I want to hear from you, and I will do my best to help you access various wings of our AEES network that can offer support for your next steps. AEES values you and recognizes your talent. Second, let's continue to make a strong case that our work as ecological engineers is essential to society. We are uniquely positioned to help build a better future for the mutual benefit of all people and the environment.

Honoring a Legacy: Remembering Dr. William Mitsch

Second, just this month we lost one of our society's greatest champions, Dr. William (Bill) Mitsch. Known around the world as "Mr. Wetlands," Bill was instrumental in the creation of AEES, was the Society's first President (2002-2003), and first winner of the Odum Award for Ecological Engineering Excellence (2018). I cannot overstate Bill's contributions to ecological engineering. In addition to his roles in creating AEES and pushing ecological engineering into the mainstream through his research excellence and masterful communication, his teaching and mentoring will pay dividends to AEES for decades to come. I was fortunate to have taken two courses with Bill while a graduate student at The Ohio State University: Wetlands Ecology & Management and Ecological Modeling. I cannot imagine being where I am today without those courses. Many others in our society have similar stories, and for some Bill was a close mentor for many years. While we mourn Bill's passing, AEES will be taking action to honor his legacy. Stay tuned. In the meantime, you are welcome to make a gift to the Ruthmarie and Bill Mitsch Graduate Student Support Fund at The Ohio State University. You can read more about the Fund in the Society's prior newsletter and more about Bill's numerous accomplishments in ecological engineering at the bottom of the Society's Odum Awards webpage.

Society Reminders

Mark your calendars for our next webinar by Dr. Holly Yaryan Hall of Robinson Design Engineers on February 26th from 12-1 pm ET. The webinar is titled "Equity and Ecological Engineering Applications in the Lowcountry" (MS Teams link). This will be our third recent AEES webinar. Recordings of past AEES webinars can be viewed here.
I hope to see many of you at the 2025 AEES Annual Meeting on May 28-30 in Athens, GA. Submit abstracts by February 28th! More details here.

THE LEGACY OF DR. WILLIAM J. MITSCH

By Dr. Robert W. Nairn, Professor, University of Oklahoma and Dr. Siobhan Fennessy, Professor, Kenyon College

William J. (Bill) Mitsch, a pioneering ecological engineer, first president of AEES, and inaugural recipient of the society's Odum Award for Ecological Engineering Excellence, passed away on February 12 at the age of 77. Bill's commitment to "truth and beauty" in ecosystems science and his life-long dedication to the success of his students and collaborators truly changed our world. Ecological engineering as we know it today would not exist without Bill's vision, enthusiasm, and commitment.

Bill grew up along the banks of the Ohio River in Wheeling, West Virginia and developed his love for the environment (and baseball) in the forests, fields, and creeks of his youth. He received his BS in Mechanical Engineering from the University of Notre Dame, after which he worked in the electric power industry for a few years. He was fond to relate that the first Earth Day in 1970 changed his life's trajectory. He switched professional gears and attended the University of Florida where he completed graduate degrees in Environmental Engineering Sciences with legendary systems ecologist Howard T. Odum. Upon learning of Odum's unique energy systems approach to ecosystems and society, Bill's future career path as a wetlands ecologist and ecological engineer was set.

Bill held faculty positions at the Illinois Institute of Technology and the University of Louisville before moving to The Ohio State University in 1986. At OSU, Bill became a global leader in ecological engineering, emphasizing the crucial role of wetland ecosystems in developing a resilient and sustainable future. He founded the Olentangy River Wetland Research Park in 1992, an innovative ecosystem-scale experiment supporting novel research and hands-on education on the campus of a major university. Now globally recognized, the ORWRP was designated a Ramsar Convention Wetland of International importance in 2008. He moved to Florida Gulf Coast University in 2012, where he founded the Everglades Wetland Research Park, focusing his efforts on protection and restoration of the one and only "River of Grass".

Bill's scientific awards and international accolades are literally too numerous to mention. His textbooks Wetlands and Ecological Engineering and Ecosystem Restoration have become the go-to resources in our field. He founded the journal Ecological Engineering and served as Editor-in-Chief for many years. His scientific publication record is simply extraordinary. However, one may argue that Bill's most lasting and most significant legacies are the dozens of undergraduate and graduate students, post-doctoral researchers colleagues, and decision-makers who were influenced by his enthusiasm for innovative systems perspectives and belief in doing the right thing, despite any potential controversy. Mother Earth has lost a champion, but his legacy lives on.

Dr. William J. Mitsch's Obituary

Ruthmarie and Bill Mitsch Graduate Student Support Fund

Image from OSU's Graduate Program's website

2025 ANNUAL MEETING UPDATE

SUBMIT ABSTRACT HERE

ECOLOGICAL ENGINEERING DESIGN: A RETURN TO RESILIENCE

Join us for the 25th AEES conference in vibrant Athens, Georgia. For this special anniversary, AEES has returned to its birthplace; the first AEES conference was held in 2001 on the University of Georgia campus. The conference draws ecological engineers from around the country. Take the opportunity to learn about all of the latest happenings in the world of ecological engineering, during presentation sessions, and:

- Become a Certified Ecological Designer (CED);
- Earn Professional Development Hours;
- Celebrate the second year of publishing by the society's open-access Journal of Ecological Engineering Design (JEED);
- Learn about the ongoing ABET accreditation process;
- Learn how academic institutions across the country are bringing ecological engineering to their campuses; and
- Experience local ecosystems and ecosystem restoration activities through tours and site visits.

We've also expanded information on the website to include field tours, the Body of Knowledge workshop, and information on the Certified Ecological Designer course. The **sponsorship portal** is open and we invite you to support the program in any way you can.

The **Abstract Submission** deadline has been extended until February 28th! Don't miss your opportunity to give an oral or poster presentation to your peers from across the country! Students may elect to participate in the Student Presentation Competition as well.

FROM GREENWAYS TO GREENHOUSES: EXPLORING GREEN INFRASTRUCTURE, RESTORATION, AND ECOLOGICAL ENGINEERING IN GEORGIA

WHITEHALL FOREST AND DAM REMOVAL SITE

LILLY BRANCH SITE TOUR (REQUIRED FOR CED/AED COURSE)

NORTH OCONEE GREENWAY

UNIVERSITY OF GEORGIA BOTANICAL GARDENS

UGA VERTICAL HYDROPONIC FARM

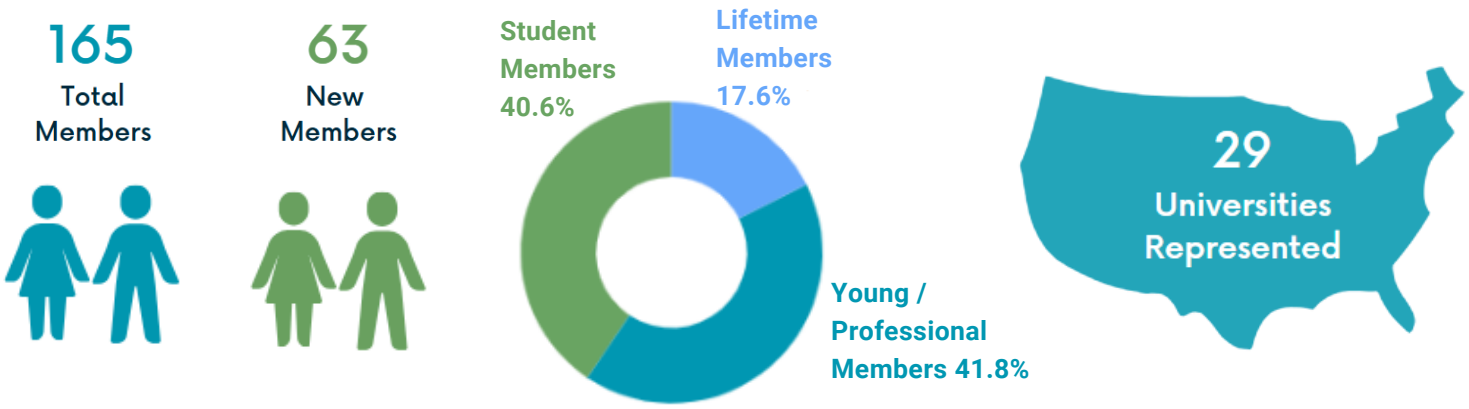
REGISTRATION OPENS SOON!
VISIT THE 2025 ANNUAL MEETING WEBSITE FOR MORE DETAILS

ANNUAL MEMBERSHIP DRIVE

RENEW OR JOIN HERE

SOCIETY MEMBERSHIP IN 2024

It is a very exciting time to be a member of the American Ecological Engineering Society and membership is at the heart of the Society's success! Being a member of AEES is a worthwhile opportunity to be a part of a community of scientists, engineers, students, and others passionate about the design of ecosystems for the mutual benefit of all people and the environment.



RENEW OR JOIN TODAY!

Benefits of being a member of the American Ecological Engineering Society include:

- Discounts on registration fees for Annual AEES Meeting
- Discount on annual subscription to the Ecological Engineering Journal: The Journal of Ecosystem Restoration
- Ability to list career opportunities on the AEES website
- Subscription to the AEES listserv, keeping you abreast of all Society information, including this newsletter, AEES webinars and student lightning talks, and ecological engineering career opportunities
- Ability to join AEES Committees to directly impact the Society, members, and outreach

Membership dues provide benefits for one year (January 1 - December 31). Join us for another year!

STUDENT MEMBERSHIP $35	YOUNG PROFESSIONAL MEMBERSHIP $75	PROFESSIONAL MEMBERSHIP $75	LIFETIME MEMBERSHIP $1500

2024'S NEW LIFETIME MEMBERS

COMMITTEE UPDATES

JOIN A COMMITTEE AND SEE THE IMPACT YOU CAN MAKE!

The eight AEES Committees are always looking for members to join their ranks and help push the Society to the next level. To learn more about the roles each committee plays in the success of the Society, visit the AEES Committees page on the Society's Website or reach out to a Committee Chair for more information.

DIEJ : DIVERSITY, INCLUSION, EQUITY, & JUSTICE

COMMITTEE CHAIR: JOEY SMITH | SMITH.10402@OSU.EDU

The Diversity, Inclusion, Equity, and Justice (DIEJ) committee encourages you to attend the upcoming AEES Quarterly webinar *Equity and Ecological Applications in the Lowcountry* by Dr. Holly Yaryan Hall of Robinson Design Engineers that focuses on DIEJ initiatives. Our committee meetings this semester will be held from 12:00-1:00 PM on the third Tuesday of each month until the 2025 conference in May. At this year's DIEJ session during the conference, we will highlight outstanding DIEJ projects in the Athens, Georgia area and feature the incredible work of our own members by inviting 5-minute flash talkers. We warmly invite anyone interested in delivering a flash talk or joining the DIEJ Committee to reach out to us via Joey Smith for more information.

STUDENT CHAPTER COMMITTEE

COMMITTEE CHAIR: KYLE BOUTIN | KYLEBOUTIN@USF.EDU

The Student Chapter Committee serves to enhance the experience of membership for students in this organization. The committee is continuing its monthly lightning talk series highlighting the excellent and diverse ecological engineering research being conducted by AEES students. All talks begin at 12 pm Eastern time. These talks are open to the public, and we encourage you to attend! Previous talks are available to view on the Student Community Page of the Society's website.

DATE	PRESENTER	UNIVERSITY AFFILIATION	PRESENTATION TITLE	SAVE THE DATE
FEBRUARY 27 12 pm ET	GABRIEL JOHNSON	IOWA STATE UNIVERSITY	Improving Effectiveness of Saturated Riparian Buffers with Multiple Distribution Pipes: Field Assessment of Hydraulic and Nitrate Load Removal Performance	ADD TO CALENDAR
MARCH 27 12 pm ET	CHRISTINE CORNISH	VIRGINIA TECH	Assessing the Influence of Microplastics on Biogeochemical Cycling	ADD TO CALENDAR
APRIL 24 12 pm ET	PATRICK McLAUGHLIN	UNIVERSITY OF FLORIDA	Effect of Recycled Wastewater Irrigation on Nutrient Leaching in Warm Season Turfgrasses	ADD TO CALENDAR

COMMITTEE UPDATES

BOK: BODY OF KNOWLEDGE

COMMITTEE CHAIR: TRICIA MOORE | TLCMOORE@KSU.EDU

The Body of Knowledge (BOK) committee continues to actively work on matters related to ecological engineering ABET accreditation and an ecological engineering body of knowledge document. Updates and upcoming opportunities related to both of these thrusts follow.

With the approval of ABET accreditation criteria for ecological engineering programs last fall, the BOK committee would like to provide AEES membership - especially those in academic institutions who have or may consider starting an ecological engineering program - with guidance on navigating the ABET process and incorporating the curricular requirements in their own programs. To this end, the BOK has two activities planned: (1) we will host a webinar later this spring to provide general information and answer questions about the ABET process for existing and potential new ecological engineering programs; and, (2) we will host a pre-conference workshop as part of the 2025 AEES annual meeting to provide specific curricular examples and work one-on-one with participants to discuss how they can adapt their existing courses and/or curricula to satisfy ABET curricular requirements. As a society, our next big step in the accreditation process is to provide program evaluators for ABET accreditation reviews of ecological engineering programs. Be on the lookout for more information regarding this important role to consider if it may be right for you!

Our committee has been working especially hard to complete a draft of the Ecological Engineering BOK document for the 2025 AEES annual conference. We anticipate providing an overview of this document - which is intended to support all ecological engineering educational programs - as part of the pre-conference accreditation workshop and as a presentation at the conference. We will welcome all AEES members to review the draft and provide their feedback to help ensure this document reflects necessary knowledge and skills across our discipline. To assist the BOK committee in their work, contact Tricia Moore.

MAC: MEMBERSHIP & AWARDS

COMMITTEE CHAIR: MICHAEL BURCHELL | MIKE_BURCHELL@NCSU.EDU

Nomination packages for the Odum Award and AEES Fellows were due in mid-February. Selection sub-committees will be tasked to review the nominations and select the award winners in March, and the awardees will be announced at the upcoming annual meeting. The draft criteria for a new award, the AEES Early Career Award, have been created and are under review, and will be finalized ahead this spring. Nominations for this new award will be opened at the end of the Annual Meeting in May. The committee currently meets every two months and is always searching for additional committee members. Contact Mike Burchell if you have any questions or are interested in serving on this very rewarding committee.

COMMITTEE UPDATES

CED: CERTIFIED ECOLOGICAL DESIGNER

COMMITTEE CHAIR: DAVID BLERSCH | DBLERSCH@AUBURN.EDU

The Certified Ecological Designer (CED) committee works to build and support the professional certification for ecological design for the profession. Action and activity over the past cycle has included the development of online materials and guidance for certification; clarification of application materials for certification; and planning for the next CED workshop and design charrette to be held in concurrence with the upcoming annual meeting. Applications from the prior workshop attendees are in preparation and under review, with awarding of certification expected soon. Launch of the online portal for registering and applying for certification is expected shortly and prior to the upcoming annual meeting to help clarify the process to applicants and society members. Planning for the upcoming workshop is underway, and interested applicants for the full or associate certification levels (CED or ACED) are still encouraged to register for the workshop at the time of conference registration. Workshop information can be found at the 25th Annual meeting website. New members to the committee are continuously encouraged, particularly from industry partners and associates; contact the committee chair if you are interested in joining the committee.

AD HOC COMMS COMMITTEE

COMMITTEE CHAIR: BRITTANY SANTORE | BRITTANY_SANTORE@NCSU.EDU

The Communications Committee has been working diligently to strategize better ways to communicate with the Society's members through the newsletter, social media, and the listserv. We are looking into ways to create custom email categories so members can subscribe to the information that interests them. We are also working on articles for the newsletter from our colleagues across the U.S. and around the world. Stay tuned as we will be announcing more improvements soon. We are meeting on the 3rd Wednesday of each month at 9 am Eastern. Contact Brittany Santore if you would like to help improve the Society's communications and membership engagement.

OPPORTUNITIES TO MAKE AN IMPACT

WOULD YOU LIKE TO HELP STEER JEED INTO THE FUTURE?

The Society is currently accepting nominations (including self-nominations) for Journal of Ecological Engineering and Design (JEED) Associate Editors and two openings on the AEES-JEED Committee. Please email nominations to Mauricio Arias.

ECOLOGICAL ENGINEERING PROGRAM EVALUATORS NEEDED

The Body of Knowledge Committee is looking for program evaluators for ABET accreditation reviews of ecological engineering programs. Does that sound like something you would like to do? Contact Tricia Moore for more information.

JOIN THE COMMUNICATIONS COMMITTEE

The new ad hoc Communications Committee is looking for more members to join and help with communications activities. No experience is necessary. If you are interesting in supporting the Society's website, newsletter, social media presence, brand, and membership engagement, this committee is for you. If interested, contact Brittany Santore.

COMMITTEE UPDATES

JEED: JOURNAL OF ECOLOGICAL ENGINERRING & DESIGN

COMMITTEE CHAIR: MAURICIO ARIAS | MEARIAS@USF.EDU

JEED is the open-access journal of AEES, published in partnership with the University of Vermont Press. Visit our website or contact us at jeed@uvm.edu with any questions or to inquire about submissions. To date, eight papers have been published with more coming soon! They all have been peer-reviewed by members of our Society and the broader Ecological Engineering field. They cover a range of classic ecological engineering topics, including aquatic ecosystem restoration, constructed wetlands for water quality improvement, and waste management. As with all papers in JEED, these are openly accessible to anybody. Here is our rolling list of papers published up to date:

Modeling the Impact of Hydraulic Reconnection on Estuary Hydrodynamics
By Megan Kramer and Mauricio Arias | Published: June 05, 2023
Evaluation of a high-resolution 2D hydrodynamic model showed that restoring flow connections in a developed subtropical estuary would increase the tidal range and reduce the average surface water elevations in the surrounding canals.

Performance of a Compost Aeration and Heat Recovery System at a Commercial Composting Facility
By Finn Bondeson, Joshua Faulkner, and Eric Roy | Published: November 21, 2023
A forced aeration and heat capture system installed at a commercial composting facility reduced the time needed to produce marketable compost by approximately 25%, promoted nutrient retention, and provided cost savings through offsetting energy and facility expansion costs.

Quantification of Ammonium Release from an Aging Free Water Surface Constructed Wetland To Improve Treatment Performance
By Brock Kamrath, Michael Burchell, François Birgand, and Tarek Aziz | Published: December 20, 2023
Laboratory experiments and modeling indicated ammonium flux from detritus porewater to the overlying water column is significant in aging free water surface constructed wetlands, which reduces treatment efficiency and thus has important design and maintenance ramifications.

Stream Restoration that Allows for Self-Adjustment Can Increase Channel-Floodplain Connectivity
By Nicholas Christensen, Elizabeth Prior, Jonathan Czuba, and Cully Hession | Published: February 14, 2024
2D modeling of a stream restoration project indicates the highest surface water channel-floodplain connection is in the section of stream without bank regrading or stabilization.

Modeling Phosphorus Retention and Release in Riparian Wetlands Restored on Historically Farmed Land
By Adrian R.H. Wiegman, Kristen L. Underwood, William B. Bowden, Isabelle C. Augustin, Tiffany Chin, & Eric Roy | Published: March 29, 2024
The restored riparian wetlands studied are generally net total phosphorus sinks on the landscape, but can be sizable sources of dissolved phosphorus in some cases.

Long-term Channel Geometry Adjustments for Reference Streams in the North Carolina Piedmont
By Jonathan L. Page, Barbara A. Doll, J. Jack Kurki-Fox, Sara Donatich, and Cameron Jernigan | Published: April 30, 2024
Reference stream channel cross-sectional area adjusted by 0% to 17% in relatively stable watersheds, while stream channel geometry for developed or rapidly developing watersheds (changing boundary conditions) adjusted by 19% to 39% over the same 10.5-year period.

Physicochemical Properties of Cattail (Typha) Bioproducts as Substitutes for Commercial Horticultural Growing Media
By Kyle D. Boutin and Marinus L. Otte | Published: Jun 25, 2024
If their high conductivities can be remedied, Typha compost and biochar could be suitable, environmentally beneficial substitutes for peat moss in horticulture. Typha products could shift the design and management of treatment wetlands toward nutrient recovery and carbon capture.

A Process Model for Leachate Treatment in Adsorbent-Amended Constructed Wetlands
By Ishfaqun Nisa, Mauricio Arias, Lillian Mulligan, Xia Yang, and Sarina J. Ergas | Published: December 16, 2024
This study introduces a computer model for constructed wetlands utilizing zeolite and biochar as adsorbent media, demonstrating enhanced pollutant removal through improved nitrification by zeolite and denitrification and organic compound removal by biochar.

AEES OFFICER NOMINATIONS

WILL YOU ANSWER THE CALL?

Nominations to serve AEES as an officer are now open for submission. You may nominate yourself or fellow members. Please send nominations to Natasha Bell, Current Secretary, at natashabell@vt.edu, no later than **April 25, 2025** to be included for consideration.

This year, the following positions will become open:

1. Vice-President/President-Elect (1-year term; followed by 1-year as President and 1-year as Past President)
2. Secretary (2-year term)
3. Student Representative (1-year term)

DESCRIPTION OF ALL OFFICER POSITIONS

President: Is the professional representative of AEES and Society business. Leads the Executive Committee, and provides direction for the Society's goals while in office. Reports annually at business meetings. Term is one year as President, followed by one year as Past President.

Vice-President (President-elect): Serves one year as Vice-President and is a member of the Executive Committee. In the following year, serves as President for a one-year term. In the third year, serves as Past President. 3-year total commitment. Duties as assigned. Fills in if the President is unavailable.

Treasurer: Shall serve on the Executive Committee for a term of 2 years as the legal custodian of all funds of the Society. The Treasurer makes the investment of all funds, tracks the monetary business of the Society, and maintains membership rolls through the recording of payments of annual dues.

Secretary: Shall serve on the Executive Committee for a term of 2 years and shall conduct the written business of the AEES Executive Committee, including the recording of the Executive Committee meeting minutes, recording of the AEES Business Meeting minutes, conducting and recording of the annual officers elections, recording of the subcommittee membership and activities, and supporting the gathering of information to be included in the quarterly newsletter.

Student Representative: Serves as student representative on Executive Committee for a term of one year. Provides input on student activities and represents student interests in Society business and activities. Duties as assigned.

Past-President: After serving one-year term as President, serves an additional one-year term to provide guidance to incoming Executive Committee. Duties as assigned.

After the nomination period closes, nominations will be put on a ballot to be voted upon by AEES members. The new officers will be announced during the business meeting at the 2025 Annual Meeting.

SUBMIT NOMINATION TO NATASHA BELL HERE

AEES QUARTERLY WEBINAR

HOLLY YARYAN HALL, PHD, PE

Equity and Ecological Engineering Applications in the Lowcountry

CLICK TO ADD TO YOUR CALENDAR

This webinar examines two coastal South Carolina case studies using a framework for urban stream engineering (FUSE). FUSE is a conceptual model of ecosystem functions and benefits that incorporates biophysical and social drivers, including environmental equity. For the past 10 years, Robinson Design Engineers has been volunteering with the Friends of Gadsden Creek in Charleston, SC, and since 2020 we have been working with the SC Department of Natural Resources, SC Aquarium, and the local community of Ashleyville Marsh. Gadsden Creek is the last remaining tidal creek in the Old City district. A land development corporation proposed to permanently pipe this tidal tributary and fill the associated salt marsh wetlands adjacent to Gadsden Green, a historically Black community on the Charleston Peninsula. Alternatively, the Gadsden Creek Revitalization Project is a grassroots-based approach that would restore the ecosystem. The Ashleyville Marsh Restoration project is in the Maryville community, in the urbanized West Ashley region of Charleston. Community concerns about a degraded saltmarsh area led to a grant-funded project that seeks to restore the ecosystem by excavating tidal marsh channels, planting marsh grass, and placing oyster substrate. FUSE illustrates a balanced system, maximizing benefits to both humans and the environment.

STUDENT DESIGN COMPETITION UPDATE

WE NEED YOUR FEEDBACK...AGAIN!

COMPLETE THE SURVEY HERE

PROVIDE YOUR FEEDBACK BY MARCH 1ST!

After a few years hiatus, we are hoping to revive the Student Design Competition as a keystone element of our annual conference. We have heard from the membership and, in particular students, that this is something worth saving! However, it will likely look different than in past years. Just how different? That's where we need your input! We have collected some initial ideas on different competition formats and listed them in this survey. We would like to hear from all members, not just students but especially students, by March 1st. Thanks in advance for providing your thoughts on how to move forward towards a new and improved Student Design Competition! - Andrea Ludwig, William Rud, Kyle Boutin, and the AEES Student Chapters Committee.

ECOLOGICAL ENGINEERING AROUND THE WORLD SPOTLIGHT

THE TRAILBLAZER TRANSFORMING ECOLOGICAL ENGINEERING IN AFRICA

By: Yolandi Schoeman, PhD

Professor Paul Oberholster, Dean of the Faculty of Natural and Agricultural Sciences at the University of the Free State in South Africa, is a visionary in ecological engineering and water resource management. With decades of experience, his work combines leading-edge science with sustainable design, offering innovative solutions to global water challenges.

Prof. Oberholster's passion for water sustainability has taken him across continents. During his PhD in Water Resource Management at Pretoria University, he conducted pivotal research in the United States. His study, titled "Monitoring Toxicity in Raw Water of the Cache la Poudre River and Sheldon Lake, Colorado, USA Using Biomarkers and Molecular Marker Technology," was carried out at Colorado State University in Fort Collins. This international collaboration laid the foundation for his groundbreaking work in ecological engineering and strengthened his expertise in addressing complex water quality issues.

A true pioneer, Prof. Oberholster has spearheaded transformative projects, including developing ecologically engineered wetlands to treat acid mine drainage and using phycoremediation—a method that employs algae to treat wastewater and reduce nutrient pollution. His projects regenerate and restore ecosystems and provide sustainable, cost-effective solutions not only for the manufacturing, agricultural and mining sectors but also for communities in South Africa and beyond.

In recognition of his contributions, Prof. Oberholster received the prestigious National Science and Technology Forum (NSTF) Award for Water Research, a testament to his innovative approaches to ecological engineering. He has also played a leading role in international efforts, including developing the Wastewater Atlas for Africa, and collaborating with the United Nations Environment Programme and other partners to address sanitation and water challenges across the continent.

Prof. Oberholster's work extends beyond research and into capacity building, mentoring the next generation of ecological engineers and promoting interdisciplinary collaboration through the Ecological Engineering Institute of Africa. His ability to bridge science, policy, and community engagement exemplifies the transformative power of ecological engineering to tackle global environmental challenges.

Whether restoring wetlands, designing nature-based solutions, or mentoring future scientists, Prof. Oberholster's work inspires hope for a more sustainable future. His legacy serves as a model for ecological engineers worldwide, proving that innovative solutions can emerge from the synergy of science, collaboration, and a deep respect for the natural world.

OPPORTUNITIES TO GET INVOLVED

SPOTLIGHT ECOLOGICAL ENGINEERING IN ACTION

AEES is always looking for new stories to tell! Ecological engineering in action can happen in a variety of places -- academia, industry, locally and abroad. If you have a project to spotlight, know someone we should interview, or have interesting photos or videos, we want to hear from you. Your story could be highlighted on the AEES website, included in the AEES Quarterly Newsletter, or featured in the Journal of Ecological Engineering & Design (JEED). Next time you are in the field, lab, classroom, or conference, take some pictures and **share your experience with us**!

JOIN A COMMITTEE. MAKE AN IMPACT

The Society is always eager to have members serve on one of our **8 committees**. Whether it is helping with recruitment efforts, contributing to developing our body of knowledge, or supporting our growing communication needs, there are multiple ways your efforts can make an impact at AEES. Join us!

CAREER OPPORTUNITIES

BIOLOGICAL AND AGRICULTURAL ENGINEERING ASSISTANT PROFESSOR - 9 MONTH
University of Arkansas, Fayetteville, AR - Posted 12-17-2024

POST DOCTORAL ASSOCIATE
University of Maryland, Baltimore, MD - Posted 01-24-2025

REGIONAL ENGINEER
Ducks Unlimited, Huxley, IA - Posted 02-05-2025

CIVIL ENGINEER
Ducks Unlimited, Huxley, IA - Posted 02-05-2025

SENIOR ENGINEERING TECHNICIAN I
Ducks Unlimited, Elkhorn, WI - Posted 02-05-2025

DIRECTOR OF CENTER FOR COASTAL SOLUTIONS & ASSOCIATE OR FULL PROFESSOR
University of Florida, Gainesville, FL - Posted 02-10-2025

HYDROLOGIC AND HYDRAULIC MODELING POSTDOCTORAL RESEARCH FELLOW
Central Michigan University, Mount Pleasant, MI - Posted 02-17-2025

DO YOU HAVE A POSITION YOU WOULD LIKE TO HAVE POSTED?

Email Communications Manager, **Brittany Santore**, with the details and the date that the post should be removed.