

AEES Annual Meeting 2019

Enabling Future Generations to Solve Our Planet's Grand Challenges

MONDAY, JUNE 3, 2019			
4:00-6:00 pm	Sponsor Exhibit Booth and Poster Presentation Set-up		
6:00-9:00 pm	Informal Gathering at Twisted Laurel (130 College Street, Asheville, NC 28801)		
TUESDAY, JUNE 4, 2019			
6:30 - 8:00 am	Light Continental Breakfast and Registration		
7:30 - 8:00 am	Student Design Competition Meeting - Salon B		
OPENING GENERAL SESSION - Salon A & B			
Moderator	Trisha Moore, AEES President		
8:00 - 8:15 am	Conference Welcome - Trisha Moore, AEES President		
8:15 - 8:45 am	Julie Mayfield - Challenges for a Sustainable Future: Public Engagement is Key		
8:45 - 9:15 am	William Mitsch - History and Future of Ecological Engineering		
9:15 - 9:45 am	Sepideh Saidi - Be Open. Be positive. Be courageous.		
9:45 - 10:15 am	Rafael Vazquez-Burney - Dreams to Reality: Recent Experiences Implementing Ecological Engineering Projects		
10:15 - 10:45 am	Break		
10:45 am - 12:00 pm	CONCURRENT SESSION 1		
	Salon A	Salon B	Windsor Ballroom
Session Title	Advancing Ecological Engineering Technology	Treatment Wetlands	Ecological Engineering in Food Production
Moderator	W. Cully Hession	Tiffany Messer	Dan Hitchcock
10:45 am - 11:00 am	(1) Robert Dunn - Lidar and Geomorphic Change Detection: Useful Tools for River Ecosystem Assessment and Restoration Monitoring	(6) Scott Knight - Treatment Wetlands in Practice and Lessons Learned	(11) Stew Diemont - Wine in the Trees: Learning Adaptation to Climate Change from Traditional Viticulture Agroforestry in Portugal
11:00 am - 11:15 am	(2) W. Cully Hession - Unlocking New Insights into Riverscapes with Drone-Based Laser Scanners	(7) Michael Burchell - Breathing New Life into a 25 Year Old Wastewater Treatment Wetland	(12) Timothy Ormond - Have Your Creek and Eat It Too: Productive Food Forest Systems for Riparian Buffers
11:15 am - 11:30 am	(3) Brett Connell - High Definition Stream Surveys: A Better Way to Prioritize Your Streambank Restoration Projects	(8) David Austin - Nitrate Design Challenge: Can Surface Flow Wetlands Reduce Nitrate in Cold Water by Induced Electrical Currents?	(13) William Mitsch - Solving the Grand Challenges of Harmful Algal Blooms with Wetlaculture
11:30 am - 11:45 am	(4) Eban Bean - GatorByte: An Open Source Platform for Low-Cost, Real-Time Water Resource Monitoring	(9) Alex Horne - Oxygenation: Yes or No? Anoxia is Vital for Wetlands Pollution Treatment but Deadly for Lakes, Rivers, and Ocean Cleanups	(14) Yadir Simón Rodríguez Núñez – Evaluation of a Biological Filter and a Hydroponic System of Lettuce for the Treatment of Wastewater from an Aquaculture Recirculation System for the Production of Tilapia CANCELLED
11:45 am - 12:00 pm	(5) Jochen Hack - A New Methodology to Assess the Ecosystem Service Potential of Urban Rivers in Developing Countries	(10) Mark Brown - A Floating Island Treatment System for Removal of Phosphorus from Surface Waters	(15) Ronald Aguilar – Protecting the Water Resource in Costa Rica CANCELLED
12:00 pm - 1:00 pm	Lunch (Provided) - Lobby		

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1:00 pm - 2:15 pm	CONCURRENT SESSION 2		
	Salon A	Salon B	Windsor Ballroom
Session Title	Stream Corridor Restoration I	Constructed Wetlands	Stormwater & Green Infrastructure I
Moderator	Greg Jennings	Dawn Reinhold	Andrea Ludwig
1:00 pm - 1:15 pm	(16) Maddie Berg - Urban Stream Restoration: An Evaluation of Conveyance and Material Processing Channels	(21) Allison Lewis - The 4G Ranch Wetlands: Operating for Our Future	(26) David Wituszynski - Monitoring Bird and Insect Communities Within a Large-Scale Bioretention Project: Year 2
1:15 pm - 1:30 pm	(17) Dan Sweet - Emerging Concepts in River Restoration Design and their Application and Adaptation to Headwater Stream Restoration Projects in the Southeast	(22) Bingbing Jiang - Nutrient Retention in the First Full Year by a Wetlaculture Mesocosm System in the Former Great Black Swamp Upstream of the Highly Eutrophic Western Lake Erie	(27) Jenifer McIntyre - The Biological Effectiveness of Green Stormwater Infrastructure for Aquatic Toxicity
1:30 pm - 1:45 pm	(18) Chris Streb - Stream Restoration Using All Wood Structures	(23) Matt Huddleston - Savannah River Site's A-01 Constructed Wetland System: A Model for Sustainable Ecological Risk Mitigation	(28) Jillian Sarazen - Nitrogen and Phosphorus Removal in Bioretention Cells Receiving Agricultural Runoff from a Dairy Farm in South Burlington, VT
1:45 pm - 2:00 pm	(19) Greg Jennings - Who Gives a Dam? Removing Barriers to Aquatic Organism Passage One Step at a Time	(24) Natasha Bell - Potential of Floating Treatment Wetlands to Manage Phytophthora Species in Agricultural Runoff and Drainage	(29) James Bays - Optimizing Green Infrastructure Performance: Case Studies of Los Angeles Wetlands
2:00 pm - 2:15 pm	(20) Andy Brown - The Whole is Greater Than the Sum of Its Parts' - Aristotle	(25) Johel Venegas Castillo - Determination of the Parameters of a System of Artificial Wetlands of Vertical Subsuperficial Flow for the Optimations of the Design of Models of Black-Box Under Tropical Conditions CANCELLED	(30) Trisha Moore - The Role of Trees as Green Stormwater Infrastructure: Digging into the Data
2:15 pm - 2:30 pm	Break		
2:30 pm - 3:45 pm	CONCURRENT SESSION 3		
	Salon A	Salon B	Windsor Ballroom
Session Title	Ecological Function of Stream Restoration	Wetland Hydrology	Coastal Ecosystems
Moderator	Brian Bledsoe	Fouad Jaber	Steven Hall
2:30 pm - 2:45 pm	(31) Urban Withers - Linking Stream Restoration Success with Watershed, Practice and Design Characteristics	(36) Jack Kurki-Fox - The Potential Long-Term Impacts of Climate Change on Coastal Plain Wetlands in North Carolina	(41) David Eggleston - Integrating Ecosystem Service Considerations Within a GIS-Based Habitat Suitability Index for Oyster Restoration
2:45 pm - 3:00 pm	(32) Jeremy Melton - Comparison of Geomorphic and Habitat Metrics for Functional Lift from Urban Stream Restoration	(37) Brock Kamrath - Impact of Control Structures on the Restoration of Wetland Hydrology within the Great Dismal Swamp	(42) Steven Hall - Growing Coastal Infrastructure: Sharing the Vision for a Productive and Sustainable Coast
3:00 pm - 3:15 pm	(33) John Schwartz - Assessing Functional Lift for Urban Stream Restoration Projects	(38) Eric Neuhaus - Assessing the Success of Water Budget Modeling and Reference Wetlands for the Prediction of Wetland Hydrology in Wetland Restoration Sites in NC	(43) Samantha Francis - Green Concrete: The Bioreceptivity of Algae-Concrete for Macroinvertebrates, Preferences of False Dark Mussels, and a Lesson in Adaptive Management
3:15 pm - 3:30 pm	(34) Sara Donatich - Evaluating the Ecological Function of Restored Streams in Piedmont, North Carolina Using the Stream Quantification Tool	(39) Randall Etheridge - Managing Waterfowl Impoundment Hydrology to Provide Habitat and Reduce Nutrient Loss	(44) Mauricio Arias - Characterization of Ecosystem Metabolism of Restored Coral in the Florida Keys
3:30 pm - 3:45 pm	(35) Barbara Doll - Evaluation of Nutrient Reduction Crediting Strategies for Stream Restoration	(40) Tess Thompson - Estimating Flow Through Rock Weirs for Use in Ecological Engineering Design	(45) Sudhanshu Panda - Automated Geospatial Model Development for West Indian Manatees Habitat Suitability Analysis and Conservation Decision Support

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3:45 pm - 4:00 pm	Break		
4:00 pm - 5:15 pm	CONCURRENT SESSION 4		
	Salon A	Salon B	Windsor Ballroom
Session Title	Ecology of the Built Environment	Student Design Competition Block	Stormwater & Green Infrastructure II
Moderator	Theresa Thompson	Dedicated time slot for students to attend other concurrent sessions or to work on their design competition projects	Ani Jayakaran
4:00 pm - 4:15 pm	(46) Deborah January-Bevers - Looking Beyond Ecological Functions to the Value of Ecosystem Services in the Greater Houston Region		(51) Joey Smith - The Seasonality of Nutrients in Stormwater Runoff from Residential Sewershed in Columbus, Ohio
4:15 pm - 4:30 pm	(47) Scott Lowe - The Alternative Headwater Channel and Outfall Crediting Protocol		(52) Kathryn Boening - Hydrological Responses of Retrofitted Green Infrastructure
4:30 pm - 4:45 pm	(48) Wade Burcham - Stabilization Alternatives – Living Walls - Another Choice to Consider		(53) Karina Bynum - Solving the Watershed Challenge Through Optimized Solutions
4:45 pm - 5:00 pm	(49) Cristian Druta - Preventing Animal-Vehicle Crashes Using a Smart Roadside Detection Technology and Warning System		(54) Hunter Freeman - Are Stormwater Regulations Holding Back More Than Runoff? - An Evaluation of Watershed Protection Strategies
5:00 pm - 5:15 pm	(50) Timothy Ormond - Resilient Water Systems for Urban Agriculture: The Patchwork Urban Farms Experience		(55) Christine Pomeroy - Introduction of the Community-Enabled Life-Cycle Analysis of Stormwater Infrastructure Costs (CLASIC) tool
5:15 pm - 5:30 pm	Break		
5:30 pm - 7:00 pm	Career Fair and Poster Presentation Reception with Light Hor d'oeuvres (Salon C and Lobby)		
WEDNESDAY, JUNE 5, 2019			
6:30 am - 8:00 am	Light Breakfast Items - Yogurt & Fruit (For alternative options, see our list of suggested restaurants on the website under "About Asheville" tab)		
8:00 am - 9:15 am	CONCURRENT SESSION 5		
	Salon A	Salon B	Windsor Ballroom
Session Title	Stream Corridor Restoration II	Lake & Reservoir Water Quality	Stormwater & Green Infrastructure III
Moderator	Barbara Doll	Marc Beutel	Eban Bean
8:00 am - 8:15 am	(56) Joe Garner - Beginning a Career in Environmental Restoration and Planning: A Perspective for Students Looking to Join the Workforce	(61) Sumaia Islam - Ammonia Oxygen Demand Determination for the Design of an Oxygenation System in a Water Supply Reservoir	(66) Shaddy Alshraah - Soil Tillage for Stormwater Infiltration: Effects of Amendments and Vegetation Type Over Time
8:15 am - 8:30 am	(57) Michael Pannell - Stream Mitigation Design and Construction for an Over Widened Bedrock Channel	(62) Nathan Stoltzfus - Forming Public-Private Partnerships to Identify and Manage Agricultural Fields with Elevated Phosphorus in the Western Lake Erie Basin	(67) Mohammad Nayeab Yazdi - Assessing the Effect of Retention Ponds in Potentially Reducing or Buffering Downstream Loads to the Bay
8:30 am - 8:45 am	(58) Nolan Williams - A Methodology for Developing a Compound Flooding Model Using Long-Term Data Collection and Basic Stochastic Hydrology	(63) Tiffany Messer - Assessing the Water Quality Cocktail Entering Recreational Lakes	(68) Ani Jayakaran - The Role of Porous Asphalt in Stormwater Mitigation in Urban Landscapes
8:45 am - 9:00 am	(59) Paul Le Bel - Effective Stream Restoration Construction Management within Piscataway Creek	(64) Byran Fuhrmann - Mercury Cycling in a Eutrophic Reservoir	(69) Alessandra Braswell - Stormwater Management for Coastal Communities: A Case Study Review
9:00 am - 9:15 am	(60) Joel McSwain - Expanding Asset Protection to Include Stream Restoration Techniques	(65) Melissa Conn - Seasonal Zooplankton Community Structure and Mercury Bioaccumulation in a Hypereutrophic Reservoir	(70) Sarah Waickowski - Hydrologic and Water Quality Impacts of a Green Street Retrofit in Fayetteville, North Carolina
9:15 am - 9:30 am	Break		

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9:30 am - 10:45 am	CONCURRENT SESSION 6		
	Salon A	Salon B	Windsor Ballroom
Session Title	Watershed Approaches	Water Quality	Stormwater - Bioretention
Moderator	David Sample	Tom Franti	Stacy Hutchinson
9:30 am - 9:45 am	(71) Joshua Robinson - Field-based Assessment of an Urbanized Mountain Headwater Catchment: The Impact of Watershed-wide Green Stormwater Infrastructure Retrofits on Sediment Washload	(76) McNamara Rome - The Case for Cyanobacteria-Based Water Quality Grades	(81) Andrea Ludwig - Thinking Twice About Rock Surface Cover in Nashville-Area Bioretention Applications
9:45 am - 10:00 am	(72) Roderick Lammers - Uniting Stormwater Management and Stream Restoration Strategies for Greater Water Quality Benefits	(77) Jeffrey Kast - Simulating the Role of Manure and Inorganic Fertilizer Applications on Water Quality in the Maumee River Watershed	(82) Thorsten Knappenberger - Bayesian Approach to Assess Stormwater Pollutant Reduction in Bioretention Cells
10:00 am - 10:15 am	(73) Hannah Kuhl - Stormwater and Tidal Hydraulics in an Urban Watershed: Land Use Change Impacts	(78) Fernando Rojano-Aguilar - Use of pH, Conductivity, and Temperature as Tracers to Assess Water Quality Changes in the Kanawha River, West Virginia	(83) Michael Ament - Assessment of Drinking Water Treatment Residuals to Enhance Phosphorus Retention within Green Stormwater Infrastructure
10:15 am - 10:30 am	(74) Cameron Jernigan - Forested Stormwater Wetland Demonstration in Greenville, N.C.	(79) Yin-Phan Tsang - Characterizing Natural Barriers to Non-native Stream Fauna in Hawai'i	(84) Aaron Akin - The Influence of Active Control on Urban Bioretention Systems
10:30 am - 10:45 am	(75) Peter May - The Performance of Two Simultaneously Operated Experimental Algal Flowways Supporting Water Treatment on Anacostia River in Prince George's County, Maryland and Washington, D.C.		(85) Whitney Lisenbee - Enhanced Bioretention Cell Modeling: Moving From Water Balances To Hydrograph Production
10:45 am - 11:00 am	Break		
11:00 am - 12:00 pm	CONCURRENT SESSION 7		
	Salon A	Salon B	Windsor Ballroom
Session Title	Stream Corridor Restoration III	Special Session - Large Scale Wetland Restoration	Value Added Products
Moderator	John Schwartz	Michael Burchell	Stephanie Lansing
11:00 am - 11:15 am	(86) Amy Longcrier - The Case for More Data	(90) William Crumpton - Potential of Large Scale Wetland Restorations to Reduce Nitrogen Loads to Surface Waters in Iowa	(94) Danielle Delp - Utilizing Algae for the Production of High-Quality Biomethane via Anaerobic Digestion
11:15 am - 11:30 am	(87) Denise Alving - Using University of Maryland Campus Creek as a Study Site for Urban Creek Restoration		(95) David Penn II - An Investigative Study into Biomass Yield Production and Energy Content from Three Feedstocks as a Sustainable Solution for Right-of-Way Management
11:30 am - 11:45 am	(88) Isaac Hinson - Urban Environmental Restoration: Ecological vs. Social Values	(92) John Day - Mississippi Delta Restoration: Ecological Engineering on a Grand Scale	(96) Julia Burmistrova - Feasibility of Anaerobic Co-Digestion to Manage Food Waste and Wastewater Solids from Yosemite National Park, USA
11:45 am - 12:00 pm	(89) Christine Blackwelder - The Reedy Creek Project: A Watershed Scale Stream Restoration Project in Charlotte, NC		(97) John Mueller - The Bio-Intensive Greenhouse Agrodynamic System (BioGAS)

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12:00 pm - 1:15 pm	Lunch (Provided) - Lobby		
1:30 pm - 5:00 pm	Local Field Tours		
1:30 pm - 5:30 pm	Field Tour #1 - Ochlawaha Bog (Farmland to Wetland Restoration)		
2:00 pm - 5:30 pm	Field Tour #2 - North Carolina Arboretum (Stormwater Installations, Stream Restoration, and Botanical Gardens)		
2:30 pm - 5:30 pm	Field Tour #3 - UNC Asheville Sustainability Initiatives (Stormwater Installations, Pocket Wetlands, Green Roofs, and Gardens)		
2:45 pm - 5:30 pm	Field Tour #4 - New Belgium Brewery Stromwater Installations and Stream Restoration)		
5:45 - 9:00 pm	Dinner Reception at Smoky Park Supper Club Boathouse (350 Riverside Drive, Asheville, NC 28801)		
THURSDAY, JUNE 6, 2019			
6:30 am - 8:00 am	Light Breakfast Items - Oatmeal and Fruit (For alternative options, see our list of suggested restaurants on the website under "About Asheville" tab)		
8:00 am - 9:15 am	CONCURRENT SESSION 8		
	Salon A	Salon B	Windsor Ballroom
Session Title	Stream Restoration - Functional Assessment	Ecological Engineering Curriculum	Emerging Technology & Methods
Moderator	Sara Donatich	Stew Diemont	David Blersch
8:00 am - 8:15 am	(98) Daniel Smith - Do Roots Bind Soil? Comparing the Physical and Biological Role of Roots in Fluvial Streambank Erosion Resistance	(103) Jon Calabria - Educating Emerging Landscape Architects: Proctor Creek Case Study	(108) David Austin - Drawing the Circle Larger: Towards Integration of Heavy Industry with Remediation of Oceanic Dead Zones
8:15 am - 8:30 am	(99) Fouad Jaber - Impact of Riparian Re- Vegetation on Streambank Erodibility and Stability	(104) Mauricio Arias - Seeking Consensus for Ecological Restoration of South Florida Ecosystems in a Water Resources Sustainability Course	(109) Marc Beutel - Biomonitoring Mercury Contamination of the Landscape: Concentrations and Speciation in Tree Bark Near the Abbadia San Salvatore Mining District, Italy
8:30 am - 8:45 am	(100) Jonathan Page - Post-Restoration Monitoring of Stream Restoration Projects: What Have We Learned About Our Design Cross- Sections?	(105) Thomas G. Franti - EcoDesign Class Project: Teaching Ecological Engineering Through an International Project Collaboration	(110) Stephanie Lansing - Effect of Microbial Treatment Processes on Antimicrobial Resistance (AMR): Digestion and Composting
8:45 am - 9:00 am	(101) Brandon Quinn - Investigating Potential of Degradation of Streams in the United States	(106) Annabelle Arnold - The Development of a Chapter of the American Ecological Engineering Society	(111) David Blersch - Performance of 3D Manufactured Substrata in the Algal Turf Scrubber Approach
9:00 am - 9:15 am	(102) Michael Brooker - Functional Potential of Microbial Communities in Agricultural Floodplain Sediments Dominated by Metal Homeostasis and Antibiotic Resistance Genes	(107) Juan Castano - Co-Currence Network Analysis of Keywords in Ecological Engineering	(112) Jacob Mast - Demeter's Abacus: Biological Nutrient Computing
9:15 - 9:30 am	Break		
9:30 am - 12:45 pm	Closing General Session - Ecological Engineering Perspectives (Salon A & B)		
Session Title	Ecological Engineering Perspectives		
Moderator	Trisha Moore		
9:30 - 9:50 am	(113) Jay Martin - Defining Ecological Engineering Through Research Applications		
9:50 - 10:10 am	(114) Glenn Dale - Applications and Challenges for Ecological Engineering Down Under. An Australian Perspective.		
10:10 - 10:50 am	(115) Mark Brown - Beyond Growth: Economics as if the Planet Matters		
10:50 - 11:15 am	Closing Remarks, Student Poster Awards and Student Design Competition Awards Announced		
11:15 - 12:45 pm	Lunch (provided) and AEES Business Meeting - All Invited (Career Fair Raffle Winners Announced)		
1:00 - 5:00 pm	Post Meeting Rafting Tour (Optional - Additional Fees Apply)		