

Faculty

Dr. Stephen J. Souza *Owner of Clean Waters Consulting, LLC, New Jersey*
Dr. Souza is also the founding partner of Princeton Hydro, LLC. From 1998 through 2018, he served as president of Princeton Hydro, retiring from the company in 2019. Over the past 35 years he has dedicated his career to the management and restoration of aquatic ecosystems, in particular lakes, ponds and reservoirs. Dr. Souza received his B.S. degree from the University of Massachusetts, Dartmouth, his M.S. degree from Rutgers University, and his Ph.D. degree from the University of Connecticut. He has served over the past 25 years as an instructor and course coordinator for the Rutgers NJAES Office of Continuing Professional Education, developing and implementing multiple short courses focused on the management and restoration of aquatic ecosystems. Dr. Souza is also an adjunct professor at Temple University (Ambler Campus), teaching a graduate studies course in the Department of Landscape and Horticulture. He also conducts a professional continuing education course focusing on green infrastructure stormwater management for CPES through Montclair State University.

Mary Paist-Goldman *Principal and Owner of Rippled Waters Engineering, LLC based in New Jersey*
Ms. Paist-Goldman has more than 20 years of experience in the fields of wetland and stream restoration, stormwater management, regulatory compliance, hydrology and hydraulics, dam safety, and wastewater management. Prior to founding Rippled Waters Engineering in 2018, Ms. Paist-Goldman served as principal engineer and director of Engineering Services at Princeton Hydro. Throughout her career, Ms. Paist-Goldman has designed dozens of projects with low impact development techniques, green infrastructure, and with a focus on water quality – particularly in regard to TMDL compliance. She has designed rain gardens, cistern systems for water re-use in the form of landscape irrigation, bioretention islands, manufactured LID devices, and constructed wetlands. She has developed projects with goals of zero discharge upon completion, groundwater recharge to address aquifer deficits, and retrofits to reduce water quality impacts on Category One waters and EV streams.

Robert Gladfelter *Landscape Designer with Refugia Design/Build*
Refugia is a mission-based design and install firm. Mr. Gladfelter also is a part-time teacher at Temple University and is an acting member of his Borough's Environmental Advisory Committee. Mr. Gladfelter is currently working on getting his LA license. He graduated with a BS degree in Landscape Architecture from Temple University in 2018. Upon graduating, he worked at Simone Collins Landscape Architecture, completing various types of plans and projects including open space plans and the Delaware Canal Workbook Vol. 1. Prior to school, Mr. Gladfelter worked as a horticulturist/gardener for 12 years.

Jenna Otto, RLA, ASLA *Landscape architect at Donald Pell Gardens, Philadelphia PA*
Ms. Otto received her bachelor's degree from West Chester University and her master's degree from Temple University. Her expertise includes the design of outdoor spaces, working in collaboration with team architects, civil engineers and interior designers. Ms. Otto's work includes planting plans, hardscape plans, grading plans and lighting plans for a variety of commercial and public projects. Her project experience also extends into land development and zoning requirements, and the preparation of all levels of design documentation including schematic design, design development and construction documents. Ms. Otto's professional background includes serving as a horticultural assistant at the famed Longwood Gardens.

Andrew Pirie *Registered Landscape Architect*
Mr. Pirie received his BS degree from Amherst College and his MS degree in Landscape Architecture and Regional Planning from the University of Pennsylvania (Penn). He is employed as a senior landscape architect at Langan Engineering, working in the greater Philadelphia area. Mr. Pirie has ten years of experience practicing as a landscape architect. He has worked throughout the New England and Mid-Atlantic regions. Mr. Pirie's project background includes design of urban plazas and streetscape, university campus workspaces and parks. He has special expertise in green roofs and the design of landscape over structures. Mr. Pirie's project experience extends into urban planning, urban design and sustainable design.

Derya Akpinar, Ph.D. (c)
Ms. Akpinar received a double bachelor's degree in Environmental Engineering and Chemical Engineering from the Ataturk University, Turkey. She received her master's degree in Environmental Engineering from Ataturk University with three years of teaching assistant experience. Ms. Akpinar is now a Ph.D. (c). student in Water Resource Engineering at the University of Delaware. Her research focuses on understanding biochar's impact on plant growth, nutrient removal and hydrology in bioretention systems and the mechanisms by which biochar enhances soil aggregation, compaction and stormwater infiltration when amended to the soil.

Dr. John "Jack" Szczepanski *Senior Aquatic Ecologist; Senior Project Manager with Princeton Hydro*
Dr. Szczepanski has taken part in many critical reviews in opposition of planned residential and industrial development, as well as serving as environmental expert on several municipal planning boards in support of development application reviews for stormwater and environmental compliance. He has been asked to review Piping Plover and Seabeach Amaranth Conservation Measure monitoring design and develop a native/invasive species inventory to support an invasive species barrier design to be implemented in the Lake Champlain Canal (between Locks C8-C9), both projects ultimately for the Army Corps of Engineers. Dr. Szczepanski has compiled and analyzed biological, geomorphic and water quality data from the Aquetong Spring stream in Solebury Township, Pennsylvania.

Green Infrastructure Stormwater Management Techniques for Landscape Architects

Live, Interactive Webinar - Friday, February 18, 2022

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Learning Objectives

You'll be able to:

- Identify** the environmental, ecological and societal impacts of stormwater runoff.
- Think** outside the box and use wetlands, floodplain connectivity and stream restoration to manage stormwater.
- Use** alternative lawn cover and soil management to enhance ecological functions in suburban settings.
- Enhance** habitat and add aesthetic elements with well-planned and executed planting designs.
- Use** biochar to enhance infiltration in compacted urban soils.
- Explore** the use of green roofs to manage stormwater runoff.
- Discuss** case studies of successful stormwater best management practices.



HalfMoon Education Live Webinars

Green Infrastructure Stormwater Management Techniques for Landscape Architects

Live, Interactive Webinar - Friday, February 18, 2022



- Explore** environmental, ecological and societal impacts of stormwater runoff
- Learn** what goes into the design of a green roof and the types of green roof techniques
- Understand** and properly apply restoration focused green infrastructure
- Examine** the use of biochar for enhancement of infiltration in compacted urban soil
- Discuss** the role of the landscape architect in working with engineers and property owners
- Consider** how green infrastructure engages the community in the design process
- Analyze** stormwater best management practices (BMPs) and planting design
- Determine** bioretention stormwater best management practices from rain gardens to regional basins

Continuing Education Credits

Landscape Architects
6.5 HSW CE Hours (NJ Pending)
LA CES Pending



Agenda

Application of Green Infrastructure Stormwater Management Techniques *S.J. Souza*
Environmental, ecological and societal impacts of stormwater runoff
Improper stormwater management
The increasing scale of these impacts due to climate change
The role of landscape architects in promoting green infrastructure stormwater management techniques
Integrating such techniques in landscape designs

Alternative Approaches to Traditional SWM: Working with Wetlands, Floodplain Connectivity, and Stream Restoration *M. Paist-Goldman*
Green infrastructure More than just basins and swales
Theory and case-studies of environmental and ecological restoration projects
Uplift to ecosystem services while also managing stormwater runoff and its inherent impacts
Proper analysis and design how to avoid problems
Understanding and properly applying restoration focused green infrastructure
Ecological restoration BMPs

Converting Lawn for Stormwater Management and Enhancing Ecological Functions *R. Gladfelter*
Lawns

- Soil compaction
- Poor root penetration
- Inadequate nutrient
- Pollutant attenuation

Suburban settings

- Alternative lawn cover and better soil management can be used to lessen such problems

Examples of how lawn-related stormwater impacts can be mitigated
Attractive alternative cover
The role of the landscape architect in working with engineers and property owners

Stormwater Best Management Practices (BMPs) and Planting Design *J. Otto*
Typical engineered stormwater management practices
Issues

- Highly utilitarian and lacking habitat enhancement and aesthetic elements
- “Green infrastructure” BMPs that lack the insight of a landscape architect

Examples of how a well-planned and executed planting design

- Aesthetic potential of a green infrastructure stormwater BMP
- Function to manage stormwater while being horticulturally diverse, legible and beautifully designed

Webinar Information

Log into Webinar	Break
8:00 - 8:30 am CST	12:00 - 12:30 pm CST
Morning Session	Afternoon Session
8:30 am - 12:00 pm CST	12:30 - 4:00 pm CST

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Green Roof Design Essentials *A. Pirie*
Excellent means of managing stormwater runoff
Related stormwater impacts in highly urbanized setting
What goes into the design of a green roof and the types of green roof techniques
Basics of design and application
Various examples of green roof applications that have been constructed nationwide

Using Biochar for Enhancement Of Infiltration in Compacted Urban Soil *D. Akpinar*
The effective removal of dissolved pollutants

- Nutrients
- Petrochemicals
- Heavy metals

Concept of biochar supplementation
Types of biochar Benefits of using biochar
It is used in green infrastructure stormwater management practices
Real-world application of biochar Data demonstrating its pollutant removal benefits

Green Infrastructure in Action: Readington Township and the Rain Garden Series in Hillcrest Park *J. Szczepanski*
The design and construction of green infrastructure BMPs implemented in Readington Township, New Jersey
Funding provided through a USEPA/NJDEP 319(h) grant
Review of green infrastructure projects that included the renovation
Existing conventional detention basin as well as the construction of series of linked “small footprint” BMPs
Engagement of the community in the design process
Using the combined skill sets of engineers, hydrologists, ecologists and landscape architects to properly design and build each BMP

Bioretention Stormwater Best Management Practices from Rain Gardens to Regional Basins *S.J. Souza*
Bioretention green infrastructure BMPs
Utilize a combination of specialized soils and the correct palette of woody and herbaceous plants to passively treat runoff
Bioretention Green infrastructure
Inherent aesthetic and habitat enhancement attributes and their ability to be successfully implemented in urban, suburban and rural settings
Proper design of bioretention BMPs

Continuing Education Credit Information
This webinar is open to the public and offers 6.5 HSW continuing education hours to landscape architects licensed in most states. Course approval is currently pending for landscape architects in New Jersey.

HalfMoon Education is an approved provider with the Landscape Architecture Continuing Education System. This course approval is currently pending. Only full participation is reportable to LA CES.
HalfMoon Education is deemed an approved continuing education sponsor for New York landscape architects via its registration with the Landscape Architecture Continuing Education System (Regulations of the Commissioner §79-1.5(i)(2)).
LA CES-approved activities having the HSW designation are considered approved activities by the North Carolina Board of Landscape Architects and do not require further review.

The Florida DBPR Board of Landscape Architecture generally accepts courses approved by the Landscape Architecture Continuing Education System (LA CES). Landscape architects licensed in Florida are encouraged to review The 2021 Florida Statutes, 481.313(4) to determine course eligibility.

Visit this course listing at www.halfmoonseminars.org for updates on pending credit.
Completion certificates will be awarded to participants who complete this event, respond to prompts, and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

Cancellations: Cancel at least 48 hours before the start of the webinar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another webinar or the self-study package. You may also authorize another person to take your place.

Registration

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