

Agenda

Presented by Mary Paist-Goldman, P.E.

Applications for Open Channel Hydraulic Analysis

- Flood risk assessment
- Floodplain management
- Roadways, bridge and culvert design
- New channel or channel modification projects
- Dam analysis

Hydraulic Principles

- Conservation of energy and momentum
- Energy losses and Manning's equation
- Backwater effects
- Need for computer models

History and Development of US Army Corps HEC-RAS Software

Working with the HEC-RAS User Interface

- File management
- Data entry and editing

Building Your Steady Flow Model

- Data required
- Locating cross sections
- Setting boundary conditions
- Calculating water profiles in HEC-RAS

How Do I Add Special Elements?

- Bridge modeling
- Culvert modeling
- Dam modeling
- Lateral and diversion structures

Steady Flow Simulation 1

- Demonstration for standard stream flow
- Project file setup
- Setting geometry and boundary conditions
- Modeling tips

Model Output and Troubleshooting

- Profiles
- Tables
- Cross-sections
- Errors, warnings and notes

Steady Flow Simulation 2

- Demonstration for a standard bridge
- Modeling tips

Other Applications in HEC-RAS

- Unsteady flow
- Sediment transport
- Water quality

Introduction to HEC-RAS Modeling
Princeton, NJ - Friday, March 29, 2019

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Learning Objectives

You'll be able to:

Discuss applications for open-channel hydraulic analysis, including flood risk assessment and roadway design.

Review hydraulic principles, including the principles of conservation of energy and conservation of momentum.

Learn about the HEC-RAS user interface, including data entry, reporting and mapping capabilities.

Explore bridge and culvert modeling.

Examine steady flow water surface profiling.



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Understand the applications of open channel hydraulics

Identify the principles of hydraulic analysis and review the development of US Army Corps HEC-RAS application

Examine the HEC-RAS user interface

Learn about the types of flow and the data required for modeling

Explore steady flow surface profile demonstrations

Continuing Education Credits

Professional Engineers

7.0 CPC Credits/Continuing Ed. Hours

Floodplain Managers

7.0 ASFPM CECs



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Faculty



Mary L. Paist-Goldman, P.E. has 20 years of experience in water resource engineering with a particular focus in hydrologic and hydraulic modeling. She is an experienced modeler and has worked extensively on design and analysis using HEC-HMS, HEC-RAS, HydroCAD and XP-SWMM. Applications for her modeling expertise include wetland analysis, stream restoration, bridge repair and replacement, and dam repair, replacement or removal. Ms. Paist-Goldman has extensive expertise with stream stabilization and restoration and with dams including dam breach analyses and dam removal design. She has also prepared inundation mapping, emergency action plans, operation and maintenance manuals and dam inspection reports for low to high-hazard dams. Ms. Paist-Goldman is an expert at navigating regulatory framework for complex design. She has expertise in the fields of stormwater management, regulatory compliance, stream restoration, hydrology and hydraulics, wetland mitigation and wastewater management.

She served as principal engineer and director of engineering services at Princeton Hydro, LLC, based in New Jersey, where she managed a team of more than 25 engineering professionals specializing in natural resources management. Ms. Paist-Goldman’s attention to detail and creative eye lead to out-of-the-box solutions to complex stormwater, stream, wetland and wastewater problems. She has served on committees and she was an active participant in the preparation of stormwater ordinances and stormwater management plans. Throughout her career, Ms. Paist-Goldman has designed dozens of stormwater management projects with a focus on water quality – particularly in regard to TMDL compliance.

Seminar Information

Hyatt Regency Princeton 102 Carnegie Center Princeton, NJ 08540 (609) 987-1234	Registration 8:00 - 8:30 am Morning Session 8:30 am - 12:15 pm	Lunch (On your own) 12:15 - 1:15 pm Afternoon Session 1:15 - 5:00 pm
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Tuition

\$289 for individual registration
\$269 for three or more simultaneous registrations.

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

Additional Learning

Webinar Series

National Electrical Code

- **National Electrical Code, Part I**
Wed., March 6, 2019, 11:00 AM - 3:30 PM CST
- **National Electrical Code, Part II**
Thurs., March 7, 2019, 11:00 AM - 3:30 PM CST
- **National Electrical Code, Part III**
Fri., March 8, 2019, 11:00 AM - 3:30 PM CST

Commercial Solar Peaker Batteries

- **Commercial Solar Peaker Batteries, Part I**
Wed., March 13, 2019, 11:00 AM - 3:15 PM CDT
- **Commercial Solar Peaker Batteries, Part II**
Thurs., March 14, 2019, 11:00 AM - 2:15 PM CDT

Handling Ethical Issues in Professional Engineering Practice

Fri., March 15, 2019, 11:00 AM -12:00 PM CDT

For more information
and other online learning opportunities visit:
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Structural Forensic Engineering

- **Introduction to Forensic Engineering Process**
Wed., March 27, 2019, 11:00 AM -1:00 PM CDT
- **Causes of Failures and the Forensic Engineering Report**
Wed., March 27, 2019, 1:30 -3:30 PM CDT
- **Forensic Examination of Structures and Use in Litigation**
Thurs., March 28, 2019, 11:00 AM -1:00 PM CDT

Foundation Damage and Repair

- **Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards**
Thurs., March 28, 2019, 11:00 AM -12:30 PM CDT
- **Foundation-Wall Design and Construction**
Thurs., March 28, 2019, 1:00 -2:30 PM CDT
- **Assessment of Foundation-Slab Damage & Repair Alternative**
Fri., March 29, 2019, 11:00 AM -12:30 PM CDT
- **Assessment of Foundation-Retaining Wall Damage & Repair Alternatives**
Fri., March 29, 2019, 1:00 -2:30 PM CDT

Registration

Introduction to HEC-RAS Modeling

Princeton, NJ - Friday, March 29, 2019

How to Register	Registrant Information
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Complete the entire form. Attach duplicates if necessary.	Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
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Tuition () I will be attending the live seminar. Single Registrant - \$289.00 . Three or more registrants from the same company registering at the same time - \$269.00 each.
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