

# PRELIMINARY PROGRAM



# PORTS<sup>®</sup> '19

Pittsburgh, Pennsylvania | September 15-18, 2019



*Connect. Innovate. Transform.*



## Program Highlights

- 36 Technical Sessions and an innovative 5th track
- 7 broad-ranging, practice-oriented Short Courses
- Exhibit Hall featuring the latest developments in port and coastal engineering, maritime construction, ground treatment technologies, and a variety of port applications.
- Technical Tour
- Published Technical Proceedings Online
- Student and Young Professional Programming and Reception
- Student Paper Competition
- Ice Breaker Reception
- Gala Social Event at Carnegie Science Center

Wyndham Grand | Pittsburgh, Pennsylvania  
[www.portsconference.org](http://www.portsconference.org)

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## Schedule-at-a-Glance *(Subject to Change)*

### Sunday, September 15

7:00 – 11:30 a.m.	Registration Open
8:00 a.m. – 5:00 p.m.	Short Courses
8:00 a.m. – 5:00 p.m.	Committee Meetings
11:30 a.m. – 1:00 p.m.	Registration Closed for Lunch
12:00 – 4:30 p.m.	Exhibitor Move-in
1:00 – 6:00 p.m.	Registration Open
4:30 – 5:30 p.m.	Student & Young Professionals Reception, <b>Sponsored by The Port of Long Beach</b>
5:30 – 7:30 p.m.	Exhibits Open
5:30 – 7:30 p.m.	Ice Breaker Welcome Reception

### Monday, September 16

7:00 – 11:30 a.m.	Registration Open
7:00 – 8:00 a.m.	Speaker Breakfast
8:00 a.m. – 5:00 p.m.	Committee Meetings
8:30 – 10:00 a.m.	Opening Plenary Session
10:00 – 10:30 a.m.	Morning Refreshment Break, <b>Sponsored by S.T. Hudson Engineers, Inc.</b>
10:00 a.m. – 5:00 p.m.	Exhibits Open
10:30 a.m. – 12:00 p.m.	Concurrent Technical Sessions
11:30 a.m. – 1:00 p.m.	Registration Closed for Lunch
12:00 – 1:30 p.m.	Exhibit Hall Luncheon
1:00 – 4:00 p.m.	Registration Open
1:30 – 3:00 p.m.	Concurrent Technical Sessions
3:00 – 3:30 p.m.	Afternoon Refreshment Break, <b>Sponsored by Mott MacDonald</b>
3:30 – 5:00 p.m.	Concurrent Technical Sessions

### Tuesday, September 17

7:00 – 11:30 a.m.	Registration Open
7:00 – 8:00 a.m.	Speaker Breakfast
8:00 – 8:30 a.m.	Continental Breakfast, <b>Sponsored by HDR</b>
8:00 a.m. – 4:00 p.m.	Committee Meetings
8:30 – 10:00 a.m.	Concurrent Technical Sessions
9:00 a.m. – 12:00 p.m.	Exhibits Open
10:00 – 10:30 a.m.	Morning Refreshment Break
10:30 a.m. – 12:00 p.m.	Concurrent Technical Sessions
11:30 a.m. – 1:00 p.m.	Registration Closed for Lunch
12:00 – 2:00 p.m.	Awards Luncheon, <b>Sponsored by WSP USA</b>
12:00 – 2:00 p.m.	Exhibit Hall Closed for Lunch
1:00 – 5:30 p.m.	Registration Open
2:00 – 3:30 p.m.	Concurrent Technical Sessions
2:00 – 5:00 p.m.	Exhibits Open
3:00 – 3:30 p.m.	Afternoon Refreshment Break
3:30 – 5:00 p.m.	Student Networking Session, <b>Sponsored by the Port of Oakland</b>
6:00 – 10:00 p.m.	Gala Social Event offsite

### Wednesday, September 18

7:00 – 11:30 a.m.	Registration Open
7:00 – 8:00 a.m.	Speaker Breakfast
8:00 – 8:30 a.m.	Continental Breakfast, <b>Sponsored by Moffatt &amp; Nichol</b>
8:30 – 10:00 a.m.	Concurrent Technical Sessions
9:00 a.m. – 1:30 p.m.	Exhibit Hall Open
10:00 – 10:30 a.m.	Morning Refreshment Break
10:30 a.m. – 12:00 p.m.	Concurrent Technical Sessions
12:00 – 1:30 p.m.	Exhibit Hall Luncheon
12:30 p.m. – 5:30 p.m.	Lower Monongahela Lock and Dam Tour, <b>Sponsored by COWI North America</b>
2:00 – 5:00 p.m.	Exhibitor Move-out

## Letter from the Conference Chair

Join us as we look to the future of port engineering with the theme "Connect. Innovate. Transform."

The PORTS conference focuses on the latest influences on the industry:

- Technology advances and maritime market changes have initiated new levels of interconnectivity, automation, and capacity to the marine transportation system.
- Consolidation of carriers and larger vessels have permanently altered design parameters in ports and navigation.
- Collection and use of data has introduced new approaches and non-traditional participants to the freight enterprise network.

Join us in Pittsburgh, PA, where for the first time, the PORTS conference will be held in an inland port. Here, as we look to the future, we also look back at how the United States' marine transportation system has changed since the nation's infancy. President George Washington's personal vision of America included a navigable trade route between the Eastern United States ports and the Ohio River Valley in which Pittsburgh lies. Our nation's future continues to be built on maritime trade and its continual innovation.

Join us at this fifteenth triennial PORTS conference, where national and international leaders of the port engineering industry gather for:

- Peer-reviewed papers and presentations on various aspects of port engineering, selected for their new and innovative insights, materials, technologies, and delivery methods
- Four- and eight-hour short courses taught by industry experts for in-depth training
- Technical tour of the Lower Monongahela Lock and Dam Project led by US Army Corps of Engineers Pittsburgh District
- Fun and hands-on Gala at the Carnegie Science Center
- Networking with colleagues, clients and vendors in centrally-located exhibit hall
- Walk to nearby social events from the downtown location including restaurants, baseball games (Mariners are in town against the Pirates), museums, and other outings

### What's new this year?

- Innovative 5th Track of sessions addressing a diverse group of non-technical port engineering topics, including panel presentations on Public-Private Partnerships for ports, Government Advocacy, PIANC MARCOM Working Group Updates, and the USACE Risk Management Program
- Expanded Student and Young Member program including the new "Port Engineering 101" course, especially focused for early-career port engineers, but equally applicable to mid-career engineers transitioning into the port industry, or senior-level managers who have port engineering oversight duties



**Elizabeth Collins Burkhardt, P.E., M.ASCE**  
PORTS '19 Organizing Chair

## PORTS '19 Steering Committee

**Organizing Chair:** Elizabeth Burkhardt, P.E., D.PE, M.ASCE, Collins Engineers, Inc.

**Technical Program Co-Chair:** Pooja Jain, P.E., P.Eng, S.E., M.ASCE, Moffatt & Nichol

**Technical Program Co-Chair:** Bill Stahlman, P.E., M.ASCE, America's Central Port

**Short Course Chair:** Dan O'Connor, P.E., M.ASCE, Collins Engineers, Inc.

**Technical Tours Chair:** Monique Anderson, P.E., M.ASCE, Shannon & Wilson, Inc.

**Keynote and Plenary Chair:** Azadeh Bozorgzadeh, P.E., M.ASCE, Moffatt & Nichol

**Gala/Social Chair:** Kelly Barnes, USACE, Institute for Water Resources

**Gala/Social Chair:** Imee Osantowski, P.E., M.ASCE, Port of Oakland (retired)

**Moderator Chair:** Phillip Erbland, P.E., M.ASCE, S&ME, Inc.

**Student/YM Chair:** Jon Benvenuto, United States Coast Guard

**Student/YM Chair:** Charlie Roberts, P.E., D.PE, M.ASCE, Childs Engineering Corporation

**Budget Chair:** Bryan Jones, P.E., D.PE, D.CE, M.ASCE, HDR

**Sustainability Co-Chair:** Bryan Jones, P.E., D.PE, D.CE, M.ASCE, HDR

**Sponsorship and Exhibitor Chair:** Mike Wray, P.E., M.ASCE, BergerABAM

**Local Chair:** Mike Wagner, P.E., M.ASCE, Urban Engineers, Inc.

## Conference Staff

**Tom Chase**, Director, COPRI

**Zoe Tobin**, Coordinator, COPRI

**Lucy King, CMP**, Senior Manager, Geo-Institute & COPRI Conferences

**Sean Scully**, Senior Manager, ASCE Sponsorship and Exhibit Sales

## Other Sponsor Contributions

Conference Registration Bag  
**Whitman, Requardt and Associates, LLP**

Mobile Application Sponsorship  
**Collins Engineers, Inc.**

PDH Scanning Stations  
**Marine Solutions, Inc.**

Conference Lanyards  
**BergerABAM**

Conference Hotel Key Card  
**KPFF**

# Short Courses

All short courses take place on Sunday, September 15 and require an additional ticket. Attendees must be registered for the conference (full or daily) in order to register for the short courses.

## Vessel Mooring and Berthing

8:00 a.m. - 5:00 p.m.

This eight-hour short course provides an introduction to the determination of vessel berthing and mooring requirements and design loads for fixed marine structures such as piers, wharves, dolphins, and other port and harbor structures. The material presented is applicable to offshore terminals as well but does not address design of free-swinging single point or spread moorings. The course is oriented toward providing civil/structural engineers and port and marine terminal operators necessary background information for designing and evaluating berthing and mooring structures. This course is offered with the option of purchasing "Design of Marine Facilities for the Berthing, Mooring & Repair of Vessels, 3rd Edition," at a package price.

**Instructors:** John W. Gaythwaite, P.E., D.PE, D.CE, M.ASCE; Martin Eskijian, P.E., D.PE, M.ASCE

## Inspection, Testing and Rehabilitation for Waterfront Facilities

8:00 a.m. - 5:00 p.m.

Waterfront infrastructure represents a significant investment. Owners have a vested interest in maintaining and extending the service life of these aging assets. Exposed to the harsh marine environment, these structures are subject to increased degradation when compared most inland assets. Most owners find the goal of providing proactive and cost-effective maintenance to be a challenge. Recognizing these drivers, the ASCE/COPRI Ports & Harbors Committee developed Waterfront Facilities Inspection and Assessment (ASCE Manuals and Reports on Engineering Practices No. 130) and is finalizing the companion manual Waterfront Facilities Rehabilitation.

The intent is to not only provide owners and engineers with guidance on choosing inspection techniques, but also to determine the assessment and appropriate rehabilitation approach. The result is a process that will assist owners in maintaining their waterfront assets and extending the service life. The eight-hour course is designed to help facility operators, owners and engineers:

- Understand industry best practices for the professional engineering inspection and assessment of waterfront facilities - including above and below water; and
- Develop, scope, and solicit facility inspections and assessments; and
- Discuss nondestructive testing (NDT) and partially destructive testing (PDT) methods, which aid in the assessment and rehabilitation of facility assessments
- Determine appropriate rehabilitation techniques.

**Instructors:** Thomas Spencer, P.E., S.E., D.PE, P.Eng, M.ASCE, Vice President, Moffatt & Nichol; Ron Heffron, P.E., D.PE, M.ASCE, Vice President, COWI; Charlie Roberts, P.E., M.ASCE, President, Childs Engineering Corporation; Noah Elwood, P.E., M.ASCE, President, Appledore Marine Engineering, LLC; Paul Roberts, P.E., West Coast Area Manager, Sea Engineering, Inc.; Bill Bruin, P.E., M.ASCE, Senior Principal, Simpson Gumpertz & Heger, Inc.; Terence M. Browne, P.E., F.ASCE, Vice President, Collins Engineers, Inc.

## Large Floating Structures

8:00 a.m. - 12:00 p.m.

The course will include a broad discussion of large floating structures. The course will provide civil/structural engineers and port/marine terminal operators with a comprehensive overview of planning, design, and construction considerations for large floating structures. The course will preview information that is being prepared for a future ASCE Manual of Practice on Large Floating Structures. Topics will include:

- History and use of large floating structures such as bridges, marine terminals, ferry docks, attenuators, even swimming pools and golf greens! The course will not address offshore platforms, barges, and inner harbor marina structures. (Wave attenuation performance will be discussed in the complementary class on breakwaters).
- Planning considerations including suitability and siting analysis, operational features and requirements, shore connections, superstructures, utilities, and appurtenances.
- Environmental considerations and feasibility including water depths, wind, wave, current, ice, and other loading conditions as well as analysis and modeling
- Pontoon and Anchor design considerations including an overview of anchor types and selection, structural design of concrete pontoon systems, and other considerations
- Fabrication and construction considerations including fabrication facilities, quality control, launching, and towing

This four-hour course will provide attendees with general knowledge of the steps and considerations for selection, design, and construction of large floating structures. The course will include many examples and lessons learned from completed large floating structure projects including the world's longest floating bridge, the Evergreen Floating Bridge in Seattle.

**Instructors:** Shannon Kinsella, P.E., PMP, M.ASCE, Principal, Reid Middleton; Don Oates, P.E., D. P.E., DBIA, M.ASCE, Managing Principal, KPFF; John Cross-Whiter, P.E., M.ASCE, Senior Ocean Engineer, Glostien; Jim Parkins, P.E., M.ASCE, Sales Manager, Marine Construction, Concrete Technology Corporation

## Theory and Design of Floating Wave Attenuators

1:00 p.m. - 5:00 p.m.

This course builds on the large floating structure design course but may be taken independently. The course will guide the marine designer and engineer through the planning and design of floating wave attenuators. The course will address the following:

- Site characterization and development of an appropriate design criteria
- Theory of wave transmission past partially immersed and floating bodies, 1-D and 2-D
- Estimations of wave forces applied to floating bodies
- Structural design considerations for floating pontoons and interconnections of pontoons
- Design of restraining systems including piles, catenaries, and elastic moorings
- Product survey and case studies
- This four-hour course will provide attendees with an understanding of how attenuators do, and don't work, the expected scale (size) of an attenuator needed to perform adequately, and the practical limitations in the use of attenuators.

**Instructors:** Jack C. Cox, P.E.; D.PE, D.NE, D.CE; M.ASCE, Principal Coastal Engineer, SmithGroup; Craig Funston, P.E., Chief Engineer, Bellingham Marine

## Planning, Design and Implementation of Automated Terminals

1:00 p.m. - 5:00 p.m.

The course will include a comprehensive discussion of container handling automation and terminal design. As the challenges associated with port development evolve, the course will address:

- Next generation terminal best practices
- Benefits of automation
- Benefits of rail-mounted container stacking cranes
- Process for planning and designing an automated terminal
- Cost and schedule considerations

This four-hour course will provide attendees with interactive experience by demonstrating an actual automated terminal development process.

**Instructors:** *Ashebir Jacob, P.E., M.ASCE, Vice President, Moffatt & Nichol; Larry Nye, P.E., M.ASCE, Vice President, Moffatt & Nichol; Pekka Ranta, Senior Project Manager, Automated Container Terminals, Moffatt & Nichol*

## Grant Writing Workshop -Transportation, Infrastructure, & Resiliency Funding Opportunities at Ports

1:00 p.m. - 5:00 p.m.

This course will provide an overview of port, transportation, and resiliency-related federal and state competitive grants from the perspective of requirements from grant agencies and the port projects. Topics to include:

- Trends in funding, sources, and types of projects
- How to position, craft, construct, and submit an effective grant application
- Typical port projects funded nationwide
- Rules, regulations, and impacts the grant-funded on project implementation
- Technical and financial grant reporting and closeout process

This four-hour course will provide attendees with a practical understanding of the grant lifecycle process tailored to the infrastructure funding needs of the port.

**Instructors:** *Lisa Scola, Principal and Grants Specialist, Scola + Associates; Pierce Homer, Transportation Director, Moffatt & Nichol*

## Dredging 101- Fundamentals of Dredging

8:00 a.m. - 12:00 p.m.

The course will help improve communication between parties involved in dredging projects to increase efficiency and effectiveness through a better understanding of equipment and operations. This course will be split into two parts:

### Part 1: Equipment and Operations

- Understand what "dredging" is and what it looks like
- Most common reasons dredging is performed
- Basic knowledge of typical dredging equipment
- Understand the role of sediment management in project execution
- Broad recognition of placement alternatives
- Concept of beneficial use

### Part 2: Environmental Aspects of Dredging Projects and Operations

- Distinguish between dredging for navigation, environmental, mining and flood control
- Understand environmental issues associated with dredging, transport, and disposal/placement
- Understanding regulatory framework for navigation dredging
- Monitoring objectives and challenges
- Beneficial use options for dredged material

This four-hour course will provide attendees with interactive experience by discussing dredging operation and dredging projects.

**Instructors:** *Don Hayes, Ph.D., P.E., BCEE, F.ASCE, Research Environmental Engineer, USACE ERDC; Walter Dinicola P.E., M.ASCE, Principal Engineer, Anchor QEA*

## Ethics, Engineers and Experts: Who Is Your Master

What do codes, laws, rules, and regulations require of a PE? What duties are owed by a PE and to whom are these duties due? What are the economic and contractual relationships and ethical duties between the PE and his/her employer, client, any third-party beneficiaries of contracts, the profession, the courts/litigants in any expert role, the public in general, and one's own self-interest? These and other questions will be addressed in order to give the attendees more familiarity with the different ethical rules under which he/she must operate, how to avoid the horns of any dilemma they may face, and paint a bright-line ethical path for the PE to follow.

**Instructors:** *Michael A. Ports, P.E., Ph.D., WRE, D.NE, BCEE, F.EWRI, F.ASCE, Ports Engineering; Kenneth A. Goodwin, CP, A.M.ASCE*

*This is a free session open to all conference attendees, to be held twice during the conference: Tuesday, September 17, 2:00–3:30 p.m. and Wednesday, September 18, 8:30–10:00 a.m.*



# Program & Events

## Opening Plenary Session

Monday, September 16, 8:30 - 10:00 a.m.



### KEYNOTE ADDRESS: Helen A. Brohl

*Executive Director of the U.S. Committee on the Marine Transportation System (CMTS), former PIANC USA Commissioner, and 2016 Woman of the Year in Maritime Policy by the Organization of American States*

Helen Brohl is the first executive director of CMTS partnership under which 25

Federal agencies collaborate to address US waterways, ports, and intermodal connections. Under her direction, the first-ever National Strategy for the Marine Transportation System (MTS) was developed and approved. She is focused on issues including Federal infrastructure financing and investment, system performance measures, navigation technology integration and coordination, and integration of marine transportation issues into the President's Ocean Policy and National Export Initiatives. She was instrumental in the development of the CMTS Strategic Action Plan for Research and Development in the MTS, the CMTS response to the National Ocean Policy, the CMTS National Strategy for e Navigation, and marine transportation policy for the U.S. Arctic.

## Technical Program Highlights

PORTS '19 continues the PORTS conference tradition of presentations that advance the port engineering industry. In four concurrent tracks, industry leaders will discuss new and innovative insights, materials, technologies, and delivery methods. Topics include:

- Terminal Planning and Design
- Port Planning and Operations
- Port Infrastructure
- Port Engineering
- Navigation and Waterways
- Environmental and Sustainability
- Extreme Events

The presenters include both US and International port professionals who represent a broad mix of public, private, and academic organizations. The winners of the PORTS '19 Student and Young Professional Paper Competition will also present their papers within the technical program.

### New This Year

PORTS '19 includes an innovative fifth track addressing a diverse group of port engineering topics, including:

- The Future of Public Private Partnerships for Ports
- Government Affairs and Policy Advocacy: The Best Ways to Influence Policy from the Experts
- Ethics, Engineers, and Experts: Who is your Master? (PDHs for Ethics)

- Port Engineering 101: A free four-hour Introduction to Port Engineering
- USACE Pittsburgh District's Risk Management Center Program (anticipated)
- PIANC's Overview and Updates on MARCOM Working Groups (anticipated)

## Gala Social Offsite

Tuesday, September 17, 6:00 - 10:00 p.m.

Our gala at the Carnegie Science Center will bring out the kid in all of us! We'll get our hands wet as we explore our river environment in the H2Oh! Exhibit, tackle the new Ropes Challenge, explore the USS Requin (SS 481) submarine, visit Mr. Rogers' (miniature railway) Neighborhood, and shoot baskets and play air hockey against robots in roboworld. Enjoy the fun and casual evening to mingle with friends and explore the Works Theater with its cocktails mixed with liquid nitrogen.

Recipient of the 2003 National Award for Museum Service, Carnegie Science Center inspires and entertains people of all ages by connecting science and technology with everyday life. The hands-on approach to science in the real world takes visitors on an entertaining and educational adventure. The Science Center is located near the conference hotel on Pittsburgh's North Shore along the banks of the Ohio River and is accessible to persons with disabilities.

## Students and Young Professionals

We encourage active participation by Students and Young Professionals at PORTS '19!

**Sunday's Short Courses:** Attend in-depth training in your choice of several technical topics

**Student and YP Happy Hour:** Meet and network with fellow Students and Young Professionals before heading to the Ice Breaker Sunday evening.

**Student and YP Paper Competition:** Come see the technical presentations by Young Professionals on Monday afternoon. Evaluation of the presentations is part of the scoring of the Student Paper Competition.

**Port Engineering 101 Course (New This Year):** Held on Tuesday morning, this free four-hour short course is perfect for port professionals early in their careers. Students and Young Professionals are highly encouraged to attend.

**Student Networking Session:** Actively engage and network with industry-seasoned panel members representing a number of port engineering sectors as well as many of your peers in a friendly group setting on Tuesday afternoon

**Lock and Dam Field Trip:** Join the group for a once-in-a-lifetime tour of Lower Monongahela Lock and Dam on Wednesday afternoon

## Technical Tour Lower Monongahela Lock & Dam Tour

Wednesday, September 13, 12:30 – 5:30 p.m.

U.S. Army Corps of Engineers staff will give a tour of the Lower Mon Project. The Lower Mon Project replaced the nearly 100 year-old fixed-crest dam at Braddock Locks and Dam with a gated dam, will remove Locks and Dam 3 in Elizabeth, PA and construct two new larger locks (Charleroi Locks) at Locks and Dam 4 in Charleroi, PA. Closed-toe shoes and government-issued ID are required. Buses will depart from conference hotel.

Pre-registration is mandatory; no substitution is allowed due to security restrictions. All tour attendees need to have a security screening. Attendees will be contacted after registration to provide the necessary personal information for the screening. US citizens must register by August 30, 2019 and non-US citizens must register by August 16, 2019.



## Port Engineering 101 Course Description

Tuesday, September 12, Morning

What you need to know being a Port Engineer! This free four-hour technical short course will be held on Tuesday morning. It will provide an overview for new technical professionals working in the port and maritime industry. Professionals employed at port authorities, public agencies, consulting firms, contractors, etc. will benefit from the Port Engineering 101 course.

This course will benefit you if you are:

- An entry level engineer who needs to become familiar with the many facets of analysis/design of port infrastructure;
- A mid-career engineer seeking to transition into port engineering; or
- A senior level manager who has assumed responsibilities over port engineering, but are new to the topic.

This two-part Port Engineering 101 course will present the technical facets of designing, assessing, and maintaining port structures. This course supplements two Sunday short courses: Waterfront Inspection and Rehabilitation for Waterfront Facilities and Vessel Mooring and Berthing. It also touches base on other port engineering topics relevant to a successful port engineer's career.

Topics presented include:

- Port structure types and function
- Environmental loads for port structures
- Basic design considerations for port structures
- Vessel particulars
- Seismic evaluation of pier and wharf structures
- Geotechnical considerations for port structures

**Instructors:** Bill Bruin, P.E., M.ASCE, Senior Principal, Simpson Gumpertz & Heger, Inc.; Rune Iversen, P.E., M.ASCE, Staff Consultant, Simpson Gumpertz & Heger, Inc.; Julie Galbraith, P.E., M.ASCE, Senior Staff II - Structures, Simpson Gumpertz & Heger, Inc.; Danielle Goudreau, E.I.T., M.ASCE, Senior Engineer, Pare Corporation

# Technical Program *(subject to change)*

## Monday, September 16

8:30 – 10:00 a.m. <b>Opening Plenary Session</b>				
Track A	Track B	Track C	Track D	Track E
10:30 a.m. – 12:00 p.m. <b>Concurrent Session 1</b>				
Environmental	Port Engineering	Port Planning and Operations	Port Engineering	Government Affairs Panel
1:30 – 3:00 p.m. <b>Concurrent Session 2</b>				
Port Infrastructure	Port Engineering	Port Planning and Operations	Ports Engineering	Public Private Partnerships for Port Facilities Panel
3:30 – 5:00 p.m. <b>Concurrent Session 3</b>				
Environmental	Port Engineering (Seismic Design of Bulkheads)	Port Planning and Operations	Ports Engineering	PIANC MARCOM Working Groups Update

## Tuesday, September 17

Track A	Track B	Track C	Track D	Track E
8:30 – 10:00 a.m. <b>Concurrent Session 4</b>				
Navigation and Waterways & Landside Connectivity	Port Engineering	Terminal Planning	Port Development	Port Engineering 101 Short Course, Part 1
10:30 a.m. – 12:00 p.m. <b>Concurrent Session 5</b>				
Environmental	Port Engineering	Terminal Planning	Port Engineering	Port Engineering 101 Short Course, Part 2
12:00 - 2:00 p.m. <b>Awards Luncheon</b>				
2:00 – 3:30 p.m. <b>Concurrent Session 6</b>				
Equipment & Systems	Port Engineering (Design Standards for Piers and Wharves)	Terminal Planning	Port Engineering	Ethics Short Course
4:00 – 5:30 p.m. <b>Concurrent Session 7</b>				
Environmental	Port Engineering (San Francisco Seawall Earthquake Safety and Disaster Prevention Program)	Terminal Planning	Port Engineering	Student Networking Session

## Wednesday, September 18

Track A	Track B	Track C	Track D	Track E
8:30 – 10:00 a.m. <b>Concurrent Session 8</b>				
Port Engineering & New Technologies	Port Engineering	Terminal Planning	Port Engineering	Ethics Short Course
10:30 a.m. - 12:00 p.m. <b>Concurrent Session 9</b>				
Navigation & Waterways	Port Engineering (ASCE 61)	Port Planning and Operations & Terminal Planning	Port Engineering	USACE Pittsburgh District Update
12:00 - 1:30 p.m. <b>Exhibit Hall Lunch</b>				
12:30 - 5:30 pm <b>Afternoon Tour</b>				

# General & Registration Information

## Receive Member Rates

Not a member of ASCE? Join today and save on your PORTS® '19 conference registration. Simply visit [www.asce.org/join](http://www.asce.org/join) or call **(800) 548-ASCE (2723)** to request an application and/or register for the conference. For more information on member benefits, go to the ASCE or COPRI website. NOTE: You must have an active member account with dues paid to qualify for the member rates.

## Save on Groups of 5 or More!

Group discounts of \$50 per registration are available for groups of five or more Full Registrants from the same organization, registering by filling out paper forms and payment for all at the same time by **August 21, 2019**. Offer not valid for online registration. Send forms to [registrations@asce.org](mailto:registrations@asce.org) or by fax to **(866) 902-5593**.

## Early Bird Registration Discount (EB) – By 6/12/19

Don't miss out! Register early and receive the best savings. Registrations online or by form, must include complete payment and be received by this date to qualify for the Early Bird registration discount.

## Advance Registration Discount (ADV) – By 8/21/19

ASCE invites registrants to take advantage of an advance registration discount. Registration online or by form must include complete payment information and must be received by this date to qualify for the advance registration discount.

## On-Site Registration (ONS) – After 8/21/19

Please do not mail registration forms through the U.S. Postal Service after **August 7, 2019**, in order to ensure your registration is processed by the **August 21, 2019** deadline. After this date, registrations must be secured with a credit card. If you are paying by credit card, please register online or download the PDF registration form and submit it onsite along with your complete credit card payment.

## Confirmation of Registration

Confirmations will be emailed to all Early Bird and Advance registrants within three business days of registering for the conference. Online registrants should receive immediate notification following submission of the registration information. Pre-registered attendees will receive their name badges and any tickets ordered at the on-site ASCE Registration Desk during open registration hours.

If you do not receive your confirmation within one week, please contact ASCE registration at **(800) 548-2723** and ask to speak with Customer Service or email [registrations@asce.org](mailto:registrations@asce.org). Please reference PORTS '19 in the subject line.

## Recording of Sessions

Video and audio recording of any educational sessions is strictly prohibited without prior written permission from both ASCE and the session presenter(s).

## Release/Waiver

**Photograph Release:** By submitting the registration form, I hereby release any photographs that may be incidentally taken of me during these events by ASCE to be used for any purpose.

**Liability Waiver:** In submitting this registration, I acknowledge and agree that I am undertaking to participate in the conference activities as my own voluntary and intentional act. I agree that I alone am responsible for determining whether I am physically capable of participating in any conference activity, and I understand that there is risk associated with my participation, which may include without limitation, injury or loss caused by my own negligence or the negligence of others. With knowledge and acceptance of the risks involved, I accept full responsibility for my own safety and well-being. In consideration of my participation in conference activities, I hereby waive, release, hold harmless, and discharge ASCE and its officers, directors, and employees from any and all loss or injury that may be suffered by me in connection with Conference activities to the fullest extent permitted by law.

## ADA Compliance

The Wyndham Grand Pittsburgh Downtown is fully accessible to the disabled. If you require special assistance at the conference, please submit a written description of your requirements with your registration form or email [registrations@asce.org](mailto:registrations@asce.org) before the cancellation deadline. While ASCE will make every effort to meet the needs of the disabled, accommodations cannot be guaranteed without prior notification.

## Registration Questions

Contact [registrations@asce.org](mailto:registrations@asce.org), or call **(800) 548-2723** or **(703) 295-6300** and ask to speak with a Registration Customer Service Representative.



Port of Long Beach,  
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Please complete the registration form including signature and payment information. Use one registration form per person. Registrations will not be processed without full payment and registrant's full name. By submitting the registration form the individual agrees to all registration policies on ASCE's Conference website.

### Contact Information (\*Indicates required information)

\*First Name \_\_\_\_\_ MI \_\_\_\_\_ \*Last Name \_\_\_\_\_  
 Credentials \_\_\_\_\_ Badge Nickname \_\_\_\_\_  
 Title \_\_\_\_\_  
 \*Company/Organization/University \_\_\_\_\_  
 \*Street Address/PO Box \_\_\_\_\_  
 \*City \_\_\_\_\_ \*State \_\_\_\_\_ \*Postal Code \_\_\_\_\_ \*Country  U.S.  \_\_\_\_\_  
 \*Primary Phone \_\_\_\_\_ \*Cell Phone \_\_\_\_\_  
 \*Email \_\_\_\_\_ ASCE Member Number \_\_\_\_\_

Please answer these questions so that we may serve you better (\*indicates required information):

- \*1 The organization I work for is:  Private  Government  Education  Military  Other  
 \*2 My position is:  Partner/Principal  Senior Manager  Middle Manager  Technical/Professional  Staff Faculty  Student  Retiree  
 \*3 How many previous ASCE Conferences have you attended?  
 0  1  2  3 or more  
 \*4 My age group:  Under 25  25-34  35-49  50-65  Over 65



5. Check if you require:  
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 Vegan  Other  
 6. Check if you have allergies to the following:  
 Peanuts  Tree nuts  Seafood  
 Other \_\_\_\_\_  
 7. Check if you require special aids or services:  
 Deaf or Hearing Impaired  Blind or Visually Impaired  
 Wheelchair Bound  Other \_\_\_\_\_

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 Phone: (800) 548-2723 (U.S.)  
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### Join ASCE today and SAVE!

Simply visit [www.asce.org/join](http://www.asce.org/join) or call (800) 548-2723 to request an application.

### Register by June 12, 2019 and Save!

For complete Conference information and to register online, visit [www.portsconference.org](http://www.portsconference.org). For additional information please contact Customer Service at [registrations@asce.org](mailto:registrations@asce.org) or call (800) 548-2723.

### Save on Groups of 5 or More!

Group discounts of \$50 per registration are available for groups of five or more Full Registrants from the same organization, registering by filling out the paper registration form, submitting it and paying the total registration fees with one form of payment by **August 21, 2019**. Offer not valid for online registration. Contact Customer Service at [registrations@asce.org](mailto:registrations@asce.org).

### Full Registration

	EARLY BIRD By 6/12/19	ADVANCE By 8/21/19	ONSITE After 8/21/19
ASCE Member	<input type="checkbox"/> \$725	<input type="checkbox"/> \$775	<input type="checkbox"/> \$825
Institute Member	<input type="checkbox"/> \$725	<input type="checkbox"/> \$775	<input type="checkbox"/> \$825
Non-Member	<input type="checkbox"/> \$875	<input type="checkbox"/> \$925	<input type="checkbox"/> \$975
Cooperating Org.	<input type="checkbox"/> \$725	<input type="checkbox"/> \$775	<input type="checkbox"/> \$825
Speaker Member	<input type="checkbox"/> \$725	<input type="checkbox"/> \$775	<input type="checkbox"/> \$825
Speaker Non-Member	<input type="checkbox"/> \$875	<input type="checkbox"/> \$925	<input type="checkbox"/> \$975
Moderator Member	<input type="checkbox"/> \$725	<input type="checkbox"/> \$775	<input type="checkbox"/> \$825
Moderator Non-Member	<input type="checkbox"/> \$875	<input type="checkbox"/> \$925	<input type="checkbox"/> \$975
Student Member	<input type="checkbox"/> \$250	<input type="checkbox"/> \$250	<input type="checkbox"/> \$250

**ASCE Life Members:** You will receive a 50% discount on the cost of your registration, which will be applied automatically to your online registration.

**Full Registrants:** Included in your Full Registration fee is the following ticket. There is no extra charge for this event. However, each registrant must mark yes or no below in order to receive a ticket to this event.

Ice Breaker Reception (Sunday)	<input type="checkbox"/> Yes, I will attend	<input type="checkbox"/> No
Exhibit Hall Luncheon (Monday)	<input type="checkbox"/> Yes, I will attend	<input type="checkbox"/> No
Awards Luncheon (Tuesday)	<input type="checkbox"/> Yes, I will attend	<input type="checkbox"/> No
Gala Dinner (Tuesday)	<input type="checkbox"/> Yes, I will attend	<input type="checkbox"/> No
Exhibit Hall Luncheon (Wednesday)	<input type="checkbox"/> Yes, I will attend	<input type="checkbox"/> No

### Daily Registration

Please select one day:  Monday  Tuesday  Wednesday

	EB	ADV	ONS
Member	<input type="checkbox"/> \$350	<input type="checkbox"/> \$400	<input type="checkbox"/> \$450
Non-Member	<input type="checkbox"/> \$450	<input type="checkbox"/> \$500	<input type="checkbox"/> \$550

### Additional Tickets

(These events are included with Full Registrations)

	EB	ADV	ONS	QTY
Ice Breaker Welcome Reception (Sunday)	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	<input type="checkbox"/> \$75	_____
Exhibit Hall Luncheon (Monday)	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	_____
Awards Luncheon (Tuesday)	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	_____
Gala Dinner (Tuesday)	<input type="checkbox"/> \$175	<input type="checkbox"/> \$175	<input type="checkbox"/> \$175	_____
Exhibit Hall Luncheon (Wednesday)	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	<input type="checkbox"/> \$60	_____

ASCE uses the information you provide to administer your registration and to keep you apprised of conference information and related products and services. The name, job title, company information, and mailing address of registrants are also included in the conference attendee list that is provided to sponsors. For more information, see our Privacy Policy ([www.asce.org/privacy](http://www.asce.org/privacy)).

**Tour** (The tour requires an additional fee. Security screening required. U.S. Citizens must register by 8/30/19, non-US citizens must register by 8/16/19.)

### Wednesday, September 18

12:30 p.m. – 5:30 p.m.

**Lower Monongahela Lock and Dam Tour**  \$30  \$30  \$30

### Short Courses (These events require an additional fee.)

#### Sunday, September 15

#### Vessel Mooring and Berthing

8:00 a.m. – 5:00 p.m.

	EB	ADV	ONS
Member w/Book	<input type="checkbox"/> \$345	<input type="checkbox"/> \$375	<input type="checkbox"/> \$410
Member w/o book	<input type="checkbox"/> \$245	<input type="checkbox"/> \$275	<input type="checkbox"/> \$310
Non-Member w/ book	<input type="checkbox"/> \$395	<input type="checkbox"/> \$425	<input type="checkbox"/> \$455
Non-Member w/o book	<input type="checkbox"/> \$295	<input type="checkbox"/> \$325	<input type="checkbox"/> \$355
Student w/ book	<input type="checkbox"/> \$175	<input type="checkbox"/> \$215	<input type="checkbox"/> \$255
Student w/o book	<input type="checkbox"/> \$125	<input type="checkbox"/> \$165	<input type="checkbox"/> \$205

#### Inspection, Testing and Rehabilitation of Waterfront Facilities

8:00 a.m. – 5:00 p.m.

Member w/Book	<input type="checkbox"/> \$345	<input type="checkbox"/> \$375	<input type="checkbox"/> \$410
Member w/o book	<input type="checkbox"/> \$245	<input type="checkbox"/> \$275	<input type="checkbox"/> \$310
Non-Member w/ book	<input type="checkbox"/> \$395	<input type="checkbox"/> \$425	<input type="checkbox"/> \$455
Non-Member w/o book	<input type="checkbox"/> \$295	<input type="checkbox"/> \$325	<input type="checkbox"/> \$355
Student w/ book	<input type="checkbox"/> \$175	<input type="checkbox"/> \$215	<input type="checkbox"/> \$255
Student w/o book	<input type="checkbox"/> \$125	<input type="checkbox"/> \$165	<input type="checkbox"/> \$205

#### Large Floating Structures

8:00 a.m. – 12:00 p.m.

Member	<input type="checkbox"/> \$175	<input type="checkbox"/> \$205	<input type="checkbox"/> \$235
Non-Member	<input type="checkbox"/> \$225	<input type="checkbox"/> \$255	<input type="checkbox"/> \$285
Student	<input type="checkbox"/> \$65	<input type="checkbox"/> \$105	<input type="checkbox"/> \$145

#### Dredging 101

8:00 a.m. – 12:00 p.m.

Member	<input type="checkbox"/> \$175	<input type="checkbox"/> \$205	<input type="checkbox"/> \$235
Non-Member	<input type="checkbox"/> \$225	<input type="checkbox"/> \$255	<input type="checkbox"/> \$285
Student	<input type="checkbox"/> \$65	<input type="checkbox"/> \$105	<input type="checkbox"/> \$145

#### Planning, Design, and Implementation of Automated Terminals

1:00 – 5:00 p.m.

Member	<input type="checkbox"/> \$175	<input type="checkbox"/> \$205	<input type="checkbox"/> \$235
Non-Member	<input type="checkbox"/> \$225	<input type="checkbox"/> \$255	<input type="checkbox"/> \$285
Student	<input type="checkbox"/> \$65	<input type="checkbox"/> \$105	<input type="checkbox"/> \$145

#### Theory and Design of Floating Wave Attenuators

1:00 – 5:00 p.m.

Member	<input type="checkbox"/> \$175	<input type="checkbox"/> \$205	<input type="checkbox"/> \$235
Non-Member	<input type="checkbox"/> \$225	<input type="checkbox"/> \$255	<input type="checkbox"/> \$285
Student	<input type="checkbox"/> \$65	<input type="checkbox"/> \$105	<input type="checkbox"/> \$145

#### Grant Writing Workshop

1:00 – 5:00 p.m.

Member	<input type="checkbox"/> \$175	<input type="checkbox"/> \$205	<input type="checkbox"/> \$235
Non-Member	<input type="checkbox"/> \$225	<input type="checkbox"/> \$255	<input type="checkbox"/> \$285
Student	<input type="checkbox"/> \$65	<input type="checkbox"/> \$105	<input type="checkbox"/> \$145

**PAYMENT: Full Payment must accompany this registration form. No REFUNDS granted for cancellation after August 21, 2019.**

Full Registration	\$ _____	<input type="checkbox"/> <b>CHECK</b> Checks must be issued in U.S. dollars and drawn on U.S. banks. To pay registration fee by check, postmark your registration by the deadlines indicated above and mail to: <b>ASCE/COPRI PORTS '19</b> PO Box 79668 Baltimore, MD 21279-0668 USA	<input type="checkbox"/> <b>CREDIT CARD</b> <input type="checkbox"/> AMEX <input type="checkbox"/> VISA <input type="checkbox"/> MasterCard <input type="checkbox"/> Discover <input type="checkbox"/> Diners Card
Daily Registration	\$ _____		Credit Card # _____
Tour	\$ _____		Security Code _____ Expiration Date (MM/YY) _____
Short Courses	\$ _____		Cardholder Name _____
Additional Tickets	\$ _____		Signature _____
COPRI Membership Fee	\$ _____	<input type="checkbox"/> <b>PURCHASE ORDER</b>	Total to be Charged _____
<b>GRAND TOTAL (pay this amount)</b>	\$ _____	# _____	
		(must submit a copy of the PO with this registration)	



## Hotel Information

### Wyndham Grand Pittsburgh Downtown

600 Commonwealth Pl  
Pittsburgh, PA 15222

### Reservation Rates and Cutoff Date

**Group Rate:** \$170

**Government Rate:** \$130, subject to availability

All room rates are subject to applicable taxes, which are currently 14% per room per night, and are subject to change without notice.

Reserve your room online and receive the group rate before

**August 14, 2019.**

### Make Your Reservation

To make your reservation and get information on hotel amenities, guest rooms, or parking availability, please go to [www.portsconference.org](http://www.portsconference.org) and click Hotel & Travel.

## Professional Development Hours (PDHs)

You may earn PDHs, which are nationally recognized units of record, by attending conference technical sessions. Please note that there are differences from state to state in continuing education requirements for professional engineering licensure. Each state registration board has the final authority to approve course, credits, PDHs, and other methods of earning credits in that state. ASCE strongly recommends that individuals regularly check with their state registration boards for specific continuing education requirements in their jurisdictions that affect professional engineering licensure and the ability to renew licensure.

Earn up to 22.5 PDHs and register today!

## Exhibitors *(as of 3-18-19)*

- Advisian - Worley Parsons Group
- Anchor QEA
- Aquaveo
- Bedford Technology
- Bellingham Marine
- BergerABAM
- Carmel Corrosion Systems
- CJ Geo
- Collins Engineers, Inc.
- COWI North America Inc.
- Creative Pultrusions
- Crofton Industries
- Denso North America
- Duramax Marine
- Dynamic Isolation Systems
- Eaglelift
- EJ USA, Inc.
- Elliott Bay Design Group
- ESL
- Fugro
- Gantrex
- Giken America Corporation
- Hayward Baker
- HDR
- Jacobs
- Junttan USA
- L.B. Foster Company
- Manson Construction
- Marine Fenders International
- Marine Solutions, Inc.
- McLaren Engineering Group
- Menard
- Moffat & Nichol
- Mott MacDonald
- Nicholson Construction Company
- Nucor Skyline
- PileMedic by QuakeWrap
- PlanGrid
- Presto Geosystems
- Roller Compacted Pavement Council
- S.T. Hudson Engineers, Inc.
- SF Marina
- ShibataFenderTeam, Inc.
- Simpson Strong-Tie
- Simpson, Gumpertz & Heger, Inc.
- Spatial Networks
- Taylor Engineering, Inc.
- Teledyne Marine
- Tensar International Corporation
- Vector Corrosion Technologies
- Woods Hole Group
- WSP USA

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# PORTS® '19

Pittsburgh, Pennsylvania | September 15-18, 2019



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