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

*Events in Bold take place in the Exhibit Hall

**Sunday, September 15**
- 6:00 – 10:00 a.m. Registration Open – Grand Ballroom Foyer
- 8:00 a.m. – 5:00 p.m. Short Courses – See page 4
- 10:00 – 11:00 a.m. Registration Closed
- 1:00 – 5:00 p.m. Exhibitor Move-in – Grand Ballroom
- 10:00 – 11:00 a.m. Registration Open – Grand Ballroom Foyer
- 11:00 a.m. – 6:30 p.m. Student and Young Professionals Reception – King’s Garden 1-2, Sponsored by The Port of Oakland
- 4:30 – 5:30 p.m. Exhibits Open – Grand Ballroom
- 5:30 – 7:30 p.m. Welcome Reception – Grand Ballroom

**Monday, September 16**
- 6:30 – 11:30 a.m. Registration Open – Grand Ballroom Foyer
- 7:00 – 8:00 a.m. Speaker Breakfast – King’s Garden 1
- 8:00 a.m. – 4:00 p.m. Exhibits Open – Grand Ballroom
- 10:00 a.m. – 12:00 p.m. Concurrent Technical Sessions – See Technical Grid pages 9-10
- 10:00 – 10:30 a.m. Morning Refreshment Break – Grand Ballroom, Sponsored by S.T. Hudson Engineers, Inc.
- 10:30 – 11:10 a.m. Commercial Showcase – Brigade
- 10:30 a.m. – 12:00 p.m. Concurrent Technical Sessions – See Technical Grid pages 9-10
- 12:00 – 1:30 p.m. Lunch – Grand Ballroom
- 1:30 – 4:00 p.m. Concurrent Technical Sessions – See Technical Grid pages 9-10
- 4:00 – 5:30 p.m. Afternoon Refreshment Break – Grand Ballroom, Sponsored by Mott MacDonald
- 3:30 – 4:10 p.m. Commercial Showcase – Brigade
- 3:30 – 5:00 p.m. Concurrent Technical Sessions – See Technical Grid pages 9-10

**Tuesday, September 17**
- 6:30 a.m. – 12:00 p.m. Registration Open – Grand Ballroom Foyer
- 7:00 – 8:00 a.m. Speaker Breakfast – King’s Garden 1
- 8:00 a.m. – 4:00 p.m. Exhibits Open – Grand Ballroom
- 8:00 – 8:30 a.m. Continental Breakfast – Grand Ballroom, Sponsored by HDR
- 8:30 – 10:00 a.m. Concurrent Technical Sessions – See Technical Grid pages 11-12
- 10:00 – 10:30 a.m. Morning Refreshment Break – Grand Ballroom, Sponsored by McLaren Engineering Group
- 10:30 a.m. – 12:00 p.m. Concurrent Technical Sessions – See Technical Grid pages 11-12
- 12:00 – 1:30 p.m. Lunch – Grand Ballroom
- 1:30 – 4:30 p.m. Concurrent Technical Sessions – See Technical Grid pages 11-12
- 4:30 – 5:00 p.m. Student and Young Professionals Networking – Commonwealth 1, Sponsored by The Port of Long Beach
- 6:00 – 10:00 p.m. Gala Social Event – Carnegie Science Center

**Wednesday, September 18**
- 6:30 a.m. – 2:00 p.m. Registration Open – Grand Ballroom Foyer
- 7:00 – 8:00 a.m. Speaker Breakfast – King’s Garden 1
- 8:00 a.m. – 2:00 p.m. Exhibits Open – Grand Ballroom
- 8:00 – 8:30 a.m. Continental Breakfast – Grand Ballroom, Sponsored by Moffatt & Nichol
- 8:30 – 10:00 a.m. Concurrent Technical Sessions – See Technical Grid page 13-14
- 10:00 – 10:30 a.m. Morning Refreshment Break – Grand Ballroom
- 10:30 a.m. – 12:00 p.m. Concurrent Technical Sessions – See Technical Grid page 13-14
- 12:00 – 1:30 p.m. Lunch – Grand Ballroom
- 12:30 p.m. – 5:30 p.m. Lower Monongahela Lock and Dam Tour, Sponsored by COWI
- 2:00 – 5:00 p.m. Exhibitor Move-out – Grand Ballroom
Welcome to PORTS® ’19! Together, we will look to the future of port engineering with the theme “Connect. Innovate. Transform.”

Welcome to Pittsburgh, PA, where, for the first time, the Ports conference will be held in an inland port. Even in our country’s infancy, the marine transportation system was a major component in the success of the United States. 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.

Welcome to the fifteenth triennial PORTS conference, where national and international leaders of the port engineering industry gather for:

- Presentations of peer-reviewed papers 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 interactive 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, sporting events, museums, and other outings

What’s new this year?

- Innovative Track E sessions addressing a diverse group of non-technical port engineering topics, including panel presentations on Government Advocacy, Public-Private Partnerships for ports, PIANC MARCOM Working Group updates, and the USACE Pittsburgh District’s 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.

Download the PORTS® ’19 App

Whether you want to personalize your schedule, check out the PORTS® ’19 exhibitors, or take notes about a presentation, the PORTS® ’19 App is your go-to mobile experience!

- Download the free eventScribe App from the Apple App Store or Google Play Store (search for “eventscribe” to find)
- Install, then open the app.
- “Search for an Event” with “PORTS’19”
- Choose your login option: Attendees can use your PORTS® ’19 username and password to log in and create your personal experience. You can also create an account if you do not already have one.

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: WSP
- Conference Hotel Key Card: KPFF
**Program Overview**

**Sunday, September 15**

**Student and Young Professionals Reception**
4:30 – 5:30 p.m., King's Garden 1-2

*Sponsored by* PORT OF OAKLAND

Students and Young Professionals, get a head start on the conference and connect just before the Welcome Reception. Hosted by the Conference Organization Committee, come meet the current and future leaders of the Port Engineering community.

**Welcome Reception**
5:30 – 7:30 p.m., Grand Ballroom

Kick off PORTS® ’19 with friends, colleagues, young professionals, and distinguished award winners in the Exhibit Hall. Visit and talk with our exhibitors and sponsors as we begin another successful PORTS conference.

Don’t miss this special opportunity to catch up with old friends and colleagues or make new contacts with similar interests to attend. Business dress.

---

**Monday, September 16**

**Opening Plenary**
8:30 – 10:00 a.m., King's Garden

*Sponsored by* Port of Pittsburgh Commission

**WELCOME REMARKS FROM PIANC USA**

**PRESIDENT:** Major General Scott A. Spellmon

Deputy Commanding General for Civil and Emergency Operations, U.S. Army Corps of Engineers; President, PIANC USA

Maj. Gen. Scott Spellmon exercises oversight of the Corps’ civil works activities, which includes conducting research and development, as well as planning, designing, building, operating and maintaining the nation’s water resource civil infrastructure. Spellmon is also responsible in coordinating all emergency response missions and preparatory activities for civil disasters in support of FEMA and state and local authorities.

**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.

---

**PORTS® ’19 Student Paper Competition**
10:30 a.m.–5:00 p.m., See room locations below.

Join us as we welcome five student presenters from across the globe to participate in the PORTS® ’19 Student Paper Competition. Spread out among technical sessions on Monday, September 16, these exceptional student members will share their presentations on these exciting topics:

- **Cascading Seismic and Tsunami Actions in a Pile-Supported Quay,** Claudia Reis, Ph.D., S.M.ASCE, Commonwealth 2
- **Bayesian Damage Prediction of Berm Breakwaters in the Arctic,** Maria Pontiki, MS, S.M.ASCE, Benedum
- **Extending the Service Life of Mooring Cells,** Zach J. Usselton, S.M.ASCE, Commonwealth 2
- **Designing Port Infrastructure for Sea Level Change: A Survey of U.S. Engineers,** Benjamin Sweeney, S.M.ASCE, Commonwealth 2
- **Measuring Sea Surface Gravity Waves Using Smartphones,** Matheus de Paula Vieira, S.M.ASCE; Pedro Guimaraes, Commonwealth 2

A panel of judges will choose the top three papers and award cash prizes during the PORTS® ’19 Awards Luncheon on Tuesday, September 17, 12:00 – 2:00 p.m.

---

**Short Courses**

**Sunday, September 15**

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.

**Large Floating Structure Design**
8:00 a.m. – 12:00 p.m., Sterlings 1

**Dredging 101**
8:00 a.m. – 12:00 p.m., Sterlings 3

**Vessel Mooring and Berthing**
8:00 a.m. – 5:00 p.m., Commonwealth 1

**Waterfront Inspection, Testing, and Rehabilitation for Waterfront Facilities**
8:00 a.m.–5:00 p.m., Commonwealth 2

**Planning, Design, and Implementation of Automated Terminals**
1:00 –5:00 p.m., Sterlings 1

**Grant Writing Workshop – Transportation, Infrastructure and Resiliency Funding Opportunities at Ports**
1:00 – 5:00 p.m., Sterlings 2

**Theory and Design of Floating Wave Attenuators**
1:00 – 5:00 p.m., Sterlings 3
Government Affairs Panel
10:30 a.m. – 12:00 p.m., Commonwealth 1, Track 1E

Ports are greatly affected by public policy. Policy drives project prioritization, funding, and authorization, as well as the global movement of the freight which passes through ports.

As port professionals, we need to not only understand the policies affecting current and future port activities, but also how to influence policy on federal, state, and local levels.

This government affairs panel discusses important questions:
1. How does advocacy work in a world where freight movement is increasing but the decision-makers and funders are increasingly politically divided?
2. We have bipartisan agreement that infrastructure is good for the country. How do we (literally) build on that agreement?

Moderator: Erik Stromberg, A.M.ASCE, Executive Director of the Center for Advances in Port Management, Lamar University

Panelists:
Jennie Granger, Deputy Secretary for Multimodal Transportation, PennDOT
Mary Ann Bucci, Executive Director, Port of Pittsburgh Commission
Peter Stephaich, Chairman & CEO, Campbell Transportation Company, Inc. & Chairman, Waterways Council
Natalie Mamerow, Senior Manager, Federal Government Relations, American Society of Civil Engineers

Public-Private Partnerships for Port Facilities Panel
1:30 – 3:00 p.m., Commonwealth 1, Track 2E

Are Public-Private Partnerships the only way to finance much needed waterway and port improvements? Are there other perspectives and potential partners that can help you meet your goals? This diverse panel will offer unique and informative perspectives on financing projects and building partnerships to move your capital programs forward.

Moderator: Norma Jean Mattei, Ph.D., P.E., F.SEI, Past President of ASCE, Commissioner on the Mississippi River Commission and Professor at the University of New Orleans.

PIANC Working Groups Update
3:30 – 5:00 p.m., Commonwealth 1, Track 3E

Four Technical Commissions (InCom, MarCom, EnviCom & RecCom) cover different areas of waterborne transport infrastructure, and they supervise the work carried out by our experts in the respective Working Groups on subjects of interest.

MarCom co-operates with other Commissions when issues can be seen to have a broader perspective, for example when they also have an environmental or inland impact and where relevant cross-commissions issues are concerned such as Working with Nature, Climate Change or approach to target countries. MarCom also co-operates and communicates with other international organizations such as IMO, IAPH, IALA, IHMA, IAHR, IMPA, WODA, etc.

Several Working Groups are underway within MarCom’s purview. This session provides an overview of the active PIANC MarCom Working Groups.


EnviCom is responsible for dealing with both broad and very specific navigation sustainability and environmental risk-related issues of interest to PIANC that crosscut all PIANC areas, partner activities. With strategic initiatives, Working Groups and networking activities, EnviCom proactively develops and provides environmental guidance, supports the waterborne transport infrastructure sector’s sustainability goals, and the implements PIANC goals. In this regard, EnviCom pursues new or continues existing activities in topics like working with nature environmental risk management, dredging in environmental sensitive areas, sustainable ports, climate change adaptation, carbon management, and resilience.

This session includes a presentation of the work of EnviCom Working Group 214 on Beneficial Use of Dredged Materials.

Presenters:
Victor Magar, Ph.D., P.E., Principal, Ramboll
Donald Hayes, Ph.D., P.E., Research Environmental Engineer, Environmental Laboratory, U.S. Army Research and Development Center
Tuesday, September 17

**Continental Breakfast**
8:00 - 8:30 a.m., Grand Ballroom

Sponsored by HDR

**Port Engineering 101**

**Part 1** | 8:30 – 10:00 a.m., Commonwealth 1, Track 4E
**Part 2** | 10:30 a.m. – 12:00 p.m., Commonwealth 1, Track 4E

What you need to know being a Port Engineer!

This four-hour technical short course provides an overview for new technical professionals working in the port and maritime industry, especially those in port authorities, public agencies, consulting firms, and contractors. All conference attendees are welcome.

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.

Port Engineering 101 will present the technical facets of designing, assessing, and maintaining port structures, including:
- Port Economics
- Container Terminal Operations
- Vessel Terminology & Particulars
- Port Structures
- Typical Design Considerations & Construction Materials
- Seismic Considerations
- Geotechnical Considerations
- Construction Documentation

**Instructors:** William M. Bruin, P.E., D.PE, M.ASCE; Rune Iversen, P.E., M.ASCE; Julie Galbraith, P.E., M.ASCE; Danielle Goudreau, E.I.T., A.M.ASCE; Egbert van der Wal; Tom Ward, P.E., S.E., D.PE, M.ASCE; Ali Naeem, P.E.; Matthew Martinez, P.E., S.E., D.PE, M.ASCE
Awards Luncheon
12:00 – 2:00 p.m., King’s Garden
Sponsored by

LUNCHEON MISTRESS OF CEREMONIES: Imee Osantowski, P.E., M.ASCE, President, COPRI 2018-2019
Board of Governors

WELCOME REMARKS FROM ASCE PRESIDENT: Kancheepuram (Guna) N. Gunalan, Ph.D., P.E., D.GE., F.ASCE, ASCE President 2020
K.N. Gunalan (Guna) has 30 years of experience in civil and construction industry. He has served in a number capacities including management of small, medium and large multi-national consulting firms. He is a senior manager with the experience and skill sets to manage large complex infrastructure projects. He has provided technical advice on civil, structural, geotechnical, pavement and materials issues on a variety of projects around the country and overseas. His collaborative approach for result oriented outcomes supported by his demeanor and strong communication capabilities have contributed to a number of successful Programs/Projects ranging in size from a few thousand dollars to over three billion dollars.

LUNCHEON ADDRESS: Leslie S. Richards, PennDOT Secretary of Transportation, Chairwoman of the Pennsylvania Turnpike Commission, and Chairwoman of the Pennsylvania Public Private Partnership board
Secretary Leslie Richards was appointed by Governor Tom Wolf in 2015. She is responsible for one of the largest multimodal transportation systems in the US, which includes the Ports of Philadelphia, Erie, and Pittsburgh. Under her direction, Pennsylvania has embarked on a program of innovation and adoption of technology, including the extensive use of Public Private Partnerships to address infrastructure funding and reliability challenges, an early partnership with Waze, the implementation of a metric-driven infrastructure investment approach, the inauguration of IdeaLink 20/20, and the development of the new PennDOT 20-20 strategic vision which includes the innovative PennDOT Connects.

AWARDS AND HONORS
Awards and honors bestowed at this event include:
- Student Paper Competition
- Service to the ACOPNE Award
- ACOPNE Outstanding Practitioner in Coastal, Ocean, Port and Navigation Engineering Award
- ACOPNE Diplomates Induction
- COPRI Project Excellence Awards
- Orville T. Magoon Sustainable Coasts Award
- John G. Moffatt-Frank Nichol Harbor and Coastal Engineering Award
- Kenneth M. Childs, Jr., Practitioner’s Award

Student and Young Professionals Networking
4:00 - 5:30 p.m., Commonwealth 1, Track 7E
Sponsored by

Get ready for an exciting, interactive panel discussion with leading professionals from across the country. It’s your time to connect, innovate, and transform! Don’t miss out! You’re the generation that will innovate and transform our industry for the benefit of prosperity around the globe. See you there!

Panelists:
Colonel Aaron Barta, Commander, Los Angeles District U.S. Army Corps of Engineers
Tom Kim, P.E., HDR, Inc.
Monique Anderson, P.E., M.ASCE, Shannon & Wilson, Inc.

There will also be a breakout networking session with the panelists, other industry experts, and students and young professionals like you!

Gala Social Event
6:00 – 10:00 p.m., Carnegie Science Center
1 Allegheny Ave, Pittsburgh, PA 15212

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 H2Ooh! 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.

Bus Schedule
Buses will depart from the Liberty Avenue Entrance of the Wyndham Grand Pittsburgh at 5:45 p.m and 6:30 p.m.
Buses will begin departing from Carnegie Science Center at 8:45 p.m. and will make loops until the final pickup at 10:00 p.m.

www.portsconference.org 7
Wednesday, September 18

Sustainable Infrastructure – What’s the Plan?
10:30 a.m. – 12:00 p.m., Commonwealth 1, Track 9E

The Pittsburgh District is responsible for 23 locks and dams, more than any other district in the U.S. Army Corps of Engineers.

Lenna Hawkins, the Deputy District Engineer for the Pittsburgh District, will provide an overview of the past, present and future economic importance of the valuable river resource. With the external influences to include legislative, environmental, cultural and progressive weather extremes, what’s the plan for its future?

Presenter: Lenna C. Hawkins, P.E., PMP, Deputy District Engineer, Executive Office, U.S. Army Corps of Engineers, Pittsburgh District

Technical Tour

Lower Monongahela Lock & Dam Tour
12:30 – 5:30 p.m., Commonwealth 1

Sponsored by COWI

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.

Col. Andrew J. Short, Commander of the Pittsburgh District

Col. Andrew J. Short will lead a discussion about inland navigation as seen through the Locks and Dams 2, 3 and 4, Monongahela River (Lower Mon) Construction Project for all conference attendees at the conference hotel. Charleroi Locks and Dams construction work is one phase of the $2.7 billion Lower Monongahela Construction mega-project. Funding limitations have stretched the construction of this project from 10 years to more than 30 years. Col. Short and his team will share the challenges and victories in maintaining river traffic through ongoing construction and in communications with stakeholders, which have been strengthened. They will also share issues and lessons learned constructing a project with a limited funding stream and over an extended construction period.

Col. Short’s presentation will be followed by boarding of the busses and a tour of ongoing construction at Charleroi Locks and Dam (L/D 4) on the Monongahela River for conference attendees who have pre-registered for the technical tour. Attendees should wear sleeved shirts, long pants, and closed-toe shoes.

Tour Schedule
12:30 – 1:15 p.m. Introduction and Overview by Pittsburgh District Commander in the Commonwealth 1 room at the Wyndham Grand Pittsburgh. All conference attendees are welcome to this presentation.
1:15 – 1:30 p.m. Buses Load and Depart from the Liberty Avenue Entrance of the Wyndham Grand Pittsburgh
1:30 – 5:30 p.m. Tour (pre-registration required) Your ID will be checked prior to boarding the bus for the tour. Everything must match what you previously submitted to gain admittance to the tour.

Below: Charleroi Locks & Dam. Locks and dam along the Monongahela River at Charleroi, PA, USA.
Monday, September 16, 2019

6:30 a.m. – 4:00 p.m.  Registration (closed 11:30 a.m. – 1:00 p.m. for lunch)
7:00 – 8:00 a.m.  Speaker Breakfast – King’s Garden 1
7:00 a.m. – 5:00 p.m.  Speaker Ready Room – King’s Plaza
8:30 – 10:00 a.m.  Opening Plenary – King’s Garden
10:00 – 10:30 a.m.  Morning Refreshment Break – Grand Ballroom
10:00 a.m. – 4:00 p.m.  Exhibit Hall Hours – Grand Ballroom
10:30 a.m. – 12:00 p.m.  Technical Sessions

<table>
<thead>
<tr>
<th>Track A</th>
<th>Sterlings 1-2</th>
<th>Track B</th>
<th>Sterlings 3</th>
<th>Track C</th>
<th>Benedum</th>
<th>Track D</th>
<th>Commonwealth 2</th>
<th>Track E</th>
<th>Commonwealth 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Stormwater Treatment on a 200-acre Container Terminal, Ellis Beckwith, P.E.; Scott Adamek, P.E., LG; Layli Wachter</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impacts of Implementing Zero Emission Container Handling Equipment on a Container</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technical Sessions</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 – 1:30 p.m.</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td>Combined Seismic Analysis of Vertical Pile Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Port Engineering Publications from ASCE

Seismic Design of Piers and Wharves. 2014/90 pp. This standard uses displacement-based design methods to establish guidelines for the design of piers and wharves to withstand the effects of earthquakes.

Mooring of Ships to Piers and Wharves. 2014/136 pp. Today’s larger, complex ships, with greater wind exposure and deeper drafts, pose particular mooring challenges to designers, captains, and pilots.

Waterfront Facilities Inspection and Assessment. 2015/304 pp. This Manual of Practice provides guidance on eight different types of inspection and explains how to match inspection types to project needs.

Visit the ASCE Bookstore in the Grand Ballroom Foyer or www.asce.org/booksandjournals.
## Technical Program (continued)

### Monday, September 16, 2019 (continued)

<table>
<thead>
<tr>
<th>Time</th>
<th>Technical Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 – 3:00 p.m.</td>
<td><strong>Technical Sessions</strong></td>
</tr>
</tbody>
</table>
| 2A: Environmental (Innovative Programs) | Moderator: Mustafa Samad, Ph.D., P.Eng., M.ASCE  
A New PIANC Guideline for Managing Environmental Risks of Navigation Infrastructure Projects, Rebecca Gardner, P.E., Burton C. Suekel, Kevin Kane, David W. Moore; Capt. Kevin Allen; John Jally P.E.; Miran Vanzorwegem; Amy Parry; Todd S. Bridges  
Remediating a Working Waterfront, Matthew J. Page, P.E.  
Benefits and Challenges of Port-Sponsored Mitigation Banks, Dan Berlin, PWS; Jack Malone, Ph.D.  
Large Scale Floating Wetlands for Urban Waterfronts, Matthew Alan; Niccy, P.E., S.E., M.ASCE; Adam Ravestein, PLA; Christopher Stebb, P.E.; Dennis O’Hereny, E.I.T. |
| 2B: Port Engineering (Inspection, Rehabilitation and Redevelopment) | Moderator: Thomas Spencer, P.E., S.E., D.P.E., M.ASCE  
Berth 177-179 Wharf Rehabilitation & Replacement at the Port of Los Angeles, Angel Lim, P.E., S.E., Chinh Le, P.E.; Omar A. Jaradat, Ph.D., P.E., D.P.E., M.ASCE  
Dry Dock 3 Caisson Replacement & Seat Repairs, Noah J. Ulwood, P.E.; Eric Levesque, P.E., Inn, Label |  
Emergency Wharf Repair at North Embarcadero, Port of San Diego, CA, Matthew N. Martinez, S.E., P.E., ACOPNE |
| 2C: Port Planning and Operations (Facilities Maintenance) | Moderator: Charlie Roberts, P.E., D.P.E., M.ASCE  
Bayesian Damage Prediction of Berm Breakwaters in the Arctic, Maria Pontiki, IWS, M.S.ASCE |
| 2D: Port Engineering (Extreme Events - Seismic Retrofit) | Moderator: Azadeh Bozorgzadeh, Ph.D., P.E., M.ASCE  
Thordon Container Wharf - Post-earthquake Rescue of Container Operations, Alistair Boyar, CEng; Rob Prekask, Eng Liang Chin; Anthony Delaney; James Lake  
Seismic Retrofit of a Historic Pier on Soft Soil, Benjamin Pesicka, P.E.; Robert Ham, P.E., S.E., M.ASCE; Jacob Linke, P.E.  
Seismic Retrofit of an Existing MOT Using Flat-In Construction for Rapid Turn-Around, Marc J. Percher, P.E.; Rod Iwashita, P.E., FASCE; Pranesh Prathepapan, Zachary Pecor; Azul K. Arruimoli, Ph.D., P.E.; S.G.; D.GE, FASCE  
Seismic Performance and Rehabilitation of the Port of Manta After the 2016 Ecuador Earthquake, Pedro P. Rajas, P.E.; Eduardo Miranda, Jose Barros, Dioselina Rosero; Wilmer Marquez, Leonardo Garcia |
| 2E: Public Private Partnerships for Port Facilities Panel | Facilitator: Nama Jean Mattei, Ph.D., P.E., F.S.E., Pres. 17 ASCE  
Inland Waterway Reliability and Capacity Improvements, Bob Beduene, P.E.  
Port Operator Perspectives, Chris Raguetti  
International Perspectives, David Baxter  
Extraction Value from Resiliency Improvements, rad el-Farhan, Ph.D. |
| 3:00 – 3:30 p.m. | **Afternoon Refreshment Break – Grand Ballroom** |
| 3:30 – 5:00 p.m. | **Technical Sessions**                                                              |
| 3A: Environmental (Contaminant Mitigation) | Moderator: Philip Eklund, P.E., M.ASCE  
La Quinta Terminal Mitigation: Dredged Material Beneficial Reuse for Estuarine Habitat Creation, Aaron Horine, P.E., Paul D. Carangelo, REM, CEM, PWS, PWO; Luis Maristany, P.E.  
Filling a Freshwater Lake – Sediment Remediation, Considering Not Environmental Benefit for Multiple Stakeholder Goals, Jessi Massingale, P.E.; Megan King, P.E.; Don Robbins  
Sediment Cleanup Challenges in the East Waterway, Dan Berlin, PWS; Tom Wang, P.E.; Kathy Keteridge, P.E.; Ph.D.; Greg Burkhardt |
| 3B: Port Engineering (Seismic Design of Bulkheads, Innovative Solutions) | Moderator: Shannon Kinsella, P.E., M.ASCE  
Seismic Design of Anchored Bulkheads: The Geotechnical Perspective, Monique A. Anderson, P.E., M.ASCE  
Seismic Design of Bulkheads: The Structural Perspective, Pooja Jain, P.E., S.E.; ASCS CIPRI Committee for Seismic Design of Bulkheads  
Target Reliability Indices for Quay Walls, Jetty, and Flexible Dophins, Alfred Roubos, Ph.D.; Dirk Jan Peters, Sr.; Bhapijeet Steenbergen |
| 3C: Landside Connections, Rail 3D | Moderator: Mike Wray, P.E., S.E.; ENVS, LEEDAP, M.ASCE  
The Long Beach On-Dock Rail Support Facility: An Innovative Local Plan in a Complex Environment, Mark A. Erickson, P.E.  
Overcoming Structural Design Challenges for Train Unloading Station at Cool Terminal in Colombia, Siddharth Srivastava, P.E.  
Extending the Service Life of Mooring Cells, Zach J. Usselton, S.M.ASCE |
| 3D: Port Engineering (Coastal, Sea Level Rise) | Moderator: Shane Phillips, P.E., D.P.E., D.CE  
Designing Port Infrastructure for Sea Level Change: A Survey of U.S. Engineers, Benjamin Sweeney, S.M.ASCE  
Measuring Sea Surface Gravity Waves Using Smartphones, Mathieu de Paula Vieira, S.M.ASCE; Pedro Guimarães Port of Los Angeles Sea Level Rise Adaptation Plan, Adrienne F. Newbold, P.E.; BPM; Bettina Koen, ACP, LEED, ENVSP, Jeff Khouri, P.E.; Richard Mast, P.E.; Justin Vanover  
Predicting Coastal Conditions in San Francisco Bay and Other Estuaries with Neural Networks, Frank Salcedo, P.E.; Scott Fenical, P.E., M.ASCE; Craig Ferrier |
| 3E: PIANC MARCOM Working Groups Update | Moderator: Rachel Grandpre  
Overview of Active MarCom Working Groups, Ron Helton, P.E., D.P.E., M.ASCE  
EnviCom Working Group 214 on Beneficial Use of Dredged Materials, Victor Magar, Ph.D., P.E.; Donald Hayes, Ph.D., P.E. |
Tuesday, September 17, 2019

6:30 a.m. – 5:30 p.m. Registration (closed 12:00 – 1:30 p.m. for lunch)
7:00 – 8:00 a.m. Speaker Breakfast – King’s Garden
7:00 – 8:00 a.m. Speaker Ready Room – King’s Plaza
8:00 a.m. – 4:00 p.m. Exhibit Hall Hours – Grand Ballroom (closed 12:00 – 2:00 p.m. for lunch)
8:30 – 10:00 a.m. Technical Sessions

Technical Program (subject to change)

6:30 a.m. – 5:30 p.m. Registration (closed 12:00 – 1:30 p.m. for lunch)
7:00 – 8:00 a.m. Speaker Breakfast – King’s Garden
7:00 – 8:00 a.m. Speaker Ready Room – King’s Plaza
8:00 a.m. – 4:00 p.m. Exhibit Hall Hours – Grand Ballroom (closed 12:00 – 2:00 p.m. for lunch)
8:30 – 10:00 a.m. Technical Sessions

Track A | Sterlings 1-2
---|---
4A: Port Planning and Operations, Terminal Planning, Simulation and Modeling
Moderator: Ralph Peterie, P.E., D.P.E., PMP, ENWSP
Using Simulation to Evaluate and Optimize Port System - a Case Study, Yu (Alan) Zhang, Ph.D., P.E., Rebecca Aguilar; Gerardo Lazcano
Discrete Event Simulation Case Studies in Planning Advanced Container Terminals, Yu (Alan) Zhang, Ph.D., P.E., Lambertus C. Vermeer, Jennifer Chase, Trevor Humphreys
Discrete Event Simulation for Oil Transhipment Facility, Lysenka Widaja, MSc; Cheng-Feng Tsai, MS, PE.
Time Window Based Berthing and Yard Allocation Planning of Container Vessels, Jatin Xu, Suiping Wang, Ph.D., Qiang Xu, Ph.D.

Track B | Sterlings 3
---|---
4B: Port Engineering (Structural)
Moderator: Matthew Teeden, P.E., S.E., M.ASCE
Wharf Structure Design Consideration of Pier E Redevelopment Project at the Port of Long Beach, Omar A. Jaradat, Ph.D., P.E., D.P.E., M.ASCE; Cheng Lai, Ph.D., S.E., M.ASCE; Raj S. Varadaraj, P.E., G.E., M.ASCE; Theresa Richards, P.E.
Precast Construction or Upgrade/Expansion of Two Operating Solid Bulk Terminals in Colombia, Jhalyrmy Soruco, P.E., M.ASCE; Carlos E. Osipina, Ph.D., P.E., M.ASCE; Miguel Forero, P.E.; Jordan Lagrange
Wharf Upgrade Considerations for Large Low Profile Cranes, Anna Otx, S.E., Arun K. Blatmani, S.E., Claude Gentil, P.E.

Track C | Benedum
---|---
4C: Terminal Planning and Design (Expansion, Redevelopment)
Moderator: Jeff Massengill, P.E., D.P.E., M.ASCE
Terminal Rail Operation Efficiency Enhancement and Wharf Structural Integrity Improvements, Daniel T. Sheih, Ph.D., George Paulsen, P.E.
Redevelopment of an 1880 Banana Export Terminal, John Baird, P.E., M.ASCE; Ajaya B. Mall, P.E.; Ramues Orlando Lobo Ortiz
The Port of Vancouver WA’s $275 Million, Multi-year West Vancouver Freight Access Expansion Program, Kurt W. Reichelt, P.E.
Translating Automated Container Terminal Operations into Terminal Infrastructure Design, Robert E. Kapten, P.E., Ashneer Jacob, P.E.; Reza Alami, P.E.

Track D | Commonwealth 2
---|---
4D: Port Engineering (Floating Systems, Cruise & Ferry)
Moderator: Scott E. Kuebler, P.E., S.E., M.ASCE
Seismic Response of Large Pile Moored Floating Structures, Erik Soderberg, S.E., Leah Olson, P.E.; Michael A. Jordan, S.E.
Dolphin Restraint System for the Precast Concrete Floating Berth at the Haines Ferry Terminal, Chad Goodnight, Ph.D.; Scott Brimhall, P.E.; Doug Ployter, P.E., M.ASCE; Tim Doggett, S.E.
Precast Prestressed Concrete Floating Berth at the Haines Ferry Terminal, Yeliz Firat, Ph.D., P.E.; Frank Yang, P.E., M.ASCE; Yu Phan, S.E.; David Lowell, S.E.
Replacement of a Floating Dock for Passenger Ferries, Carmelo Walter, P.E., M.ASCE; Markus Wieland, P.E., Ph.D.; LEEDAP; Jacob Linke, P.E.; Monica Blanchard, P.E.; Ron Panzer; Edward Parengkuan; Benjamin Pesicka, P.E., S.E.

Track E | Commonwealth 1
---|---
4E: Port Engineering 101 – Part 1

See more details on page 6.

10:00 – 10:30 a.m. Morning Refreshment Break – Grand Ballroom
10:30 a.m. – 12:00 p.m. Technical Sessions

Track A | Sterlings 1-2
---|---
5A: Port Engineering (Structural, Military)
Moderator: Matthew Alan McCarty, P.E., S.E., M.ASCE
MILCON P-547 Port and Propulsion Facility, William A. Young, P.E., S.E., M.ASCE; Yawei Chang, S.E., P.E., M.ASCE; Michael Barnhart, P.E., M.ASCE
General Berthing Pier Replacement at Naval Base San Diego, Henrik Dahl, P.E.; Alberto Sanchez, P.E.; James Connolly, S.E.
Unified Facilities Criteria Program, and UFC 4-152-01 Design: Piers and Wharves, Anthony Farmer, P.E., M.ASCE; Rodenick Whitel, P.E., S.E., M.ASCE; M. R. Hason, P.E., M.ASCE
The Super Flood Basin, Noah J. Etwood, P.E.; Matthew Teeden, P.E., S.E.

Track B | Sterlings 3
---|---
5B: Port Engineering (Coastal)
Moderator: Jack Cox, P.E., D.C.E, D.NE, D.P.E., M.ASCE
Wave, Moorings and Downtime Studies for Tiber Bay Port Development, East Timor, Yang Zhang, Ph.D., P.E.; Liang He, P.E.; Daxiong Shen, Ph.D., P.E.; Umar Farooque, P.E.
Scour Protection at Modern Cruise Terminals: Case Studies of Port Canaveral Cruise Terminals 1 and 3, Shannon C. Claites, M.ASCE; Scott Tencl, P.E., M.ASCE; Frank Socola, P.E.; Abhishek Shama, Ph.D., Gary Leaftor, P.E., M.ASCE; William Crowe, P.E., M.ASCE
Ferry Vessel Propeller Wash Effects on scour at the Kingston Ferry Terminal, Chris Stearns, Ph.D. S.E.; Sam Kazmer, Chris Stearns, P.E.; Alex Horner-Devine; Jim Thomson

Track C | Benedum
---|---
5C: Terminal Planning and Design (Cruise and Ferry)
Moderator: Edward Henry Stelmeyer, III, P.E., M.ASCE
Port Canaveral Cruise Terminal 3 Wharf Design and Construction, Gary Leaftor, P.E., M.ASCE; William Crowe, P.E., M.ASCE; Scott Fenical, P.E., M.ASCE; Prem Kumar, P.E.; Desiderio Maldonado, P.E., M.ASCE; Songtao Yang, Ph.D., P.E., M.ASCE
Seismic Analysis and Design of Ferry Plaza for the Downtown San Francisco Ferry Terminal, Azadeh Bozorgzadeh, Ph.D., P.E., M.ASCE; Satish Chikla, James Brady
Resiliency of NYC Ferry System, Michael Grant, P.E.; Victoria Christie, P.E.; Kailyn McGrath

Track D | Commonwealth 2
---|---
5D: Port Engineering (Geotechnical, Land Reclamation)
Moderator: David Phelps, A.M.ASCE
Geotechnical and Structural Challenges – New Seattle Multimodal Terminal at Colman Dock Project, M. Birkan Soyak, Ph.D., P.E.; Reda A. Mikhail, P.E.; Mike Wray, P.E., S.E., ENVSP; LEEDAP, M.ASCE; Jon Z. Mjelde, P.E., S.E., ENVSP; William S S Hegge, P.E.

Track E | Commonwealth 1
---|---
5E: Port Engineering 101 – Part 2
See more details on page 6.

www.portsconference.org

11
Tuesday, September 17, 2019 (continued)

12:00 – 2:00 p.m.  Awards Luncheon – King’s Garden
2:00 – 3:30 p.m.  Technical Sessions

**Track A | Sterlings 1-2**

**6A: Navigation & Waterways, Dredging**

**Moderator:** Thomas McCollough, P.E., M.ASCE

**SMART Planning Requires Smart Modeling – Getting the Most Value for Your Ship Simulation Dollar**, Dennis W. Webb, P.E.; Timothy Seaton, P.E.; Keith Martin

**Port of Huemeno Phasing Plan Through Collaboration with a Wharf Deepening**, Chris Mansour, P.E., ENVS; Christina Birdseye, Todd Graham


3:30 – 4:00 p.m.  Afternoon Refreshment Break – Grand Ballroom

4:00 – 5:30 p.m.  Technical Sessions

**Track A | Sterlings 1-2**

**7A: Port Infrastructure (Upgrades, Construction)**

**Moderator:** Heath Pope

Through the Deck and Under the Crane at the Coast Guard Yard in Baltimore MD, Kirk F. Riden, P.E.; Benjamin Cook, E.I.T.; Danielle Somma, P.E.; Thomas Ducharme, P.E.

Berths 214-220 Redevelopment Construction Lessons Learned at the Port of Los Angeles, Edward Han, P.E.; Angel Lim, P.E., S.E.; Long Nguyen; Omar A. Jaradat, Ph.D., P.E., D.PE, M.ASCE; Arul K. Asulmoli, Ph.D., P.E., G.E.; D.G.E, FASCE

Challenges in Selection, Anchorage Design, and Installation of Mooring Hooks on Existing Structures, Rune Iversen, P.E.; William M. Bruin, P.E.; D.PE, M.ASCE; Julie A. Gabaith, P.E.

Decommissioning of the SR520 Floating Bridge, Seattle, WA, M. Ali Nadeem, P.E.; Rune Iversen, P.E.; Sam Yao, Ph.D., P.E.

6:00 – 10:00 p.m.  Gala Social Event at the Carnegie Science Center

**Track B | Sterlings 3**

**7B: Port Engineering (San Francisco Seawall Earthquake Safety and Disaster Prevention Program)**

**Moderator:** Donald Gates, P.E., P.Eng., D.PE, DBIA

Overview of the San Francisco Seawall Earthquake Safety Program, Steven Reel, P.E., MS; Matt Wickers, P.E.; Rodkiwash, P.E., M.ASCE


Seismic Analyses for San Francisco Port-Wide Risk Assessment, Julie A. Gabaith, P.E.; Matt Wickers, P.E., Nason McCullough, Ph.D., P.E.; G.E.; M.ASCE

Seismic Fragility and Risk Assessment of Waterfront Structures at the Port of San Francisco, Gayle S. Johnson, P.E.

7E: Student and Young Professionals Networking Session


Moderator: Bryan Jones, P.E.


Investigation and Initial Stability Analysis of a Wharf on Severely Deteriorated Steel H-Piles, Daniel Philip Schuetz, P.E.; Daniel Robbins, P.E.; Paul Schuman, Ph.D., P.E.; Dominic Kelly, P.E., S.E.

Failure Investigation and Rehabilitation of a Steel Sheet Pile Bulkhead, Zachary Jenkins, P.E., S.E., M.ASCE

**Track C | Benedum**

**7C: Port Planning and Operations, Equipment and Systems**

**Moderator:** Douglas Thiessen, D.PE, M.ASCE

Key Design Issues for Large Low Profile Container Cranes, Kenneth Lee, S.E.; Michael A. Jaradat, S.E.; Patrick W. McCarthy, P.E.

Measuring Port Disruptions with Automatic Identification System Data, Brandon M. Scully, P.E., Katherine F. Chambers


Reconstructed Quay Wall Serves Bulk Operations and Heavy Module Transfer, Yotam Sisco, P.E., M.ASCE; VK. Kumar, P.E., S.E., M.ASCE; Carlos E. Espino, Ph.D., P.E., M.ASCE; Romuald Dagron

**Track D | Commonwealth 2**

**7D: Port Engineering (Coastal)**

**Moderator:** Kirk F. Riden, P.E.

CFD Wave Loading and Response Analysis for Large Interconnected Float Systems, Chad L. Monfort, P.E.; Scott Fenick, P.E., M.ASCE; Richard Riley, P.E.; Nathan A. Watrous, P.E.


Use of Physical/numerical Modeling in Design of an Exposed Quay at Port of Ashdai, Ahlta Bayram, P.E.; Bill Paparis, P.E.; Sean O’Neil, Yang Zhang, P.E.; Victor Pritsky, P.E.; Daniela Ostrovsky, Avi Elgaba, Issam Saba; Klas van-Wepener

Middle Breakwater Comprehensive Condition Assessment, Claudia Fassard, MS

**Track E | Commonwealth 1**

**7E: Ethics, Engineers and Experts: Who is Your Master**

**Moderator:** Kirk F. Riden, P.E.

CFD Wave Loading and Response Analysis for Large Interconnected Float Systems, Chad L. Monfort, P.E.; Scott Fenick, P.E., M.ASCE; Richard Riley, P.E.; Nathan A. Watrous, P.E.


Use of Physical/numerical Modeling in Design of an Exposed Quay at Port of Ashdai, Ahlta Bayram, P.E.; Bill Paparis, P.E.; Sean O’Neil, Yang Zhang, P.E.; Victor Pritsky, P.E.; Daniela Ostrovsky, Avi Elgaba, Issam Saba; Klas van-Wepener

Middle Breakwater Comprehensive Condition Assessment, Claudia Fassard, MS

Instructors: Michael Ports, P.E., Ph.D., WRE, D.NE, BCEE, F.E.WRI, FASCE; Kenneth Goodwin, CP, M.ASCE


Investigation and Initial Stability Analysis of a Wharf on Severely Deteriorated Steel H-Piles, Daniel Philip Schuetz, P.E.; Daniel Robbins, P.E.; Paul Schuman, Ph.D., P.E.; Dominic Kelly, P.E., S.E.

Failure Investigation and Rehabilitation of a Steel Sheet Pile Bulkhead, Zachary Jenkins, P.E., S.E., M.ASCE


**Track F | Benedum**

**7F: Port Engineering**

**Moderator:** Andrew Cairns, P.E., D.PE, PWP

Port of Long Beach Land Use Study, Hardik M. Gajjar, ENVS; Tracy Fidell, P.E.; Matt Plezia, Tony Chan, Ph.D.

A New Berth for Halifax, Thomas A. Ward, P.E., D.PE

Revisiting the Providence, Rhode Island Waterfront: The Showpiece of a Renaissance City, Danielle Goudreau, E.I.T.; Ryan McCoy, P.E.

Evolution of America’s Ports: Rise of Real Estate as Diversification Strategy, Matt Troxbridge, P.E., S.E., PEng.; Rob Sloop, P.E.; Robert Nathan, P.E.

**Track G | Commonwealth 2**

**7G: Port Planning and Operations (Master Planning)**

**Moderator:** Kirk F. Riden, P.E.

CFD Wave Loading and Response Analysis for Large Interconnected Float Systems, Chad L. Monfort, P.E.; Scott Fenick, P.E., M.ASCE; Richard Riley, P.E.; Nathan A. Watrous, P.E.


Use of Physical/numerical Modeling in Design of an Exposed Quay at Port of Ashdai, Ahlta Bayram, P.E.; Bill Paparis, P.E.; Sean O’Neil, Yang Zhang, P.E.; Victor Pritsky, P.E.; Daniela Ostrovsky, Avi Elgaba, Issam Saba; Klas van-Wepener

Middle Breakwater Comprehensive Condition Assessment, Claudia Fassard, MS

Instructors: Michael Ports, P.E., Ph.D., WRE, D.NE, BCEE, F.E.WRI, FASCE; Kenneth Goodwin, CP, M.ASCE


Investigation and Initial Stability Analysis of a Wharf on Severely Deteriorated Steel H-Piles, Daniel Philip Schuetz, P.E.; Daniel Robbins, P.E.; Paul Schuman, Ph.D., P.E.; Dominic Kelly, P.E., S.E.

Failure Investigation and Rehabilitation of a Steel Sheet Pile Bulkhead, Zachary Jenkins, P.E., S.E., M.ASCE
### Technical Program (subject to change)

#### Wednesday, September 18, 2019

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 a.m. – 2:00 p.m.</td>
<td>Registration</td>
</tr>
<tr>
<td>7:00 – 8:00 a.m.</td>
<td>Speaker Breakfast – King’s Garden 1</td>
</tr>
<tr>
<td>7:00 a.m. – 5:00 p.m.</td>
<td>Speaker Ready Room – King’s Plaza</td>
</tr>
<tr>
<td>8:00 a.m. – 2:00 p.m.</td>
<td>Exhibit Hall Hours – Grand Ballroom</td>
</tr>
<tr>
<td>8:30 – 10:00 a.m.</td>
<td>Technical Sessions</td>
</tr>
</tbody>
</table>

#### Track A | Sterlings 1-2

- **Moderator:** Joseph Galloway, P.E., M.ASCE
- **3-Dimensional Nonlinear Static Analysis for Waterfront Structures with Torsional Response Under Seismic Loading,** Pooja Jain, P.E., S.E.; Jim Hogan; Stuart Stinger; PE; Thomas McCollough
- **Seismic Design Standards for Nonstructural Components and Nonbuilding Structures in MOTEMS,** Rakesh K. Goel, Ph.D., PE
- **An Integrated Assessment of Hazard Vulnerability and Resilience to Seaports,** Jean Hur, Ph.D., P.E.; Abdullah Shafieezadeh, Ph.D., M.ASCE; Zhenhua Chen, Ph.D.

#### Track B | Sterlings 3

- **Moderator:** Noah J. Elwood, P.E., M.ASCE
- **Precast Counterfort Seawall Simplifies Road Widening Project in USVI,** V.K. Kumar, P.E., S.E., M.ASCE; Jyotirmoy Sircar, P.E., M.ASCE; Justin Berglund
- **Upgrade of Berths 226-236 Container Wharf Terminal at the Port of Los Angeles,** Angel Lim, P.E., S.E.; Marco A. Sanchez; PE; Brian Comea, P.E., Omar A. Jaradat, Ph.D., P.E., D.P.E., M.ASCE; Anahesh Thunairajah, M.ASCE; Aur K. Arulmoli, Ph.D., P.E., G.E., D.GE, FASCE
- **Wings over Washington Foundation Design,** Louis Klusmeyer, P.E., S.E.

#### Track C | Benedum

- **Moderator:** Chris Cornell, P.E., S.E.; M.ASCE
- **Dynamic Planning for Flexible Port Infrastructure After Panama Canal Expansion: A Real Case Study,** Oscar I. Soto Reyes, MSc; Poonam Toneja; Ben-Jaap Pietlage, Mauro van Schuijlenburg
- **Optimized Design Addresses Site and Constructability Challenges for Container Wharf in Iraq,** Carlos E. Orpina, Ph.D., P.E., M.ASCE; V.K. Kumar, P.E., S.E.; M.ASCE; Jyotirmoy Sircar, P.E., M.ASCE; Victor Dempsey, B.Eng, LIM, C.Eng, MICE, MCIArb
- **Planning, Design, and Construction for Expansion of PSA’s Panama Hub Port,** Ricardo McNeill, MEng; Manfred Zinselung, P.E., S.E.; M.ASCE; David Taylor, C.Eng, MICE
- **Forecasting Squat of Post Panamax Container Ships in PortMiami’s Entrance Channel,** Gordon Thomson, P.E., DCE; Wim van der Molen, P.Eng.; Ph.D., David Taylor, C.Eng, MEng, Doug Scott, P.Eng., Ph.D.; Jan Nikkila

#### Track D | Commonwealth 2

- **Moderator:** Thomas A. Ward, PE/SE, D.P.E., M.ASCE
- **Simplified Planning Tool to Determine Staffing and Consultants Needs,** Lincoln Io, P.E.; Ramanjit Brar, P.E.
- **Bringing Design Build Procurement to Port Development,** Keith Abraham; Nigel Nixon, P.E.
- **Planning, Design, and Construction for Expansion of PSA’s Panama Hub Port,** Ricardo McNeill, MEng; Manfred Zinselung, P.E., S.E.; M.ASCE; David Taylor, C.Eng, MICE

#### Track E | Commonwealth 1

- **Moderator:** Daniel A. Ward, PE/SE, D.P.E., M.ASCE
- **Simplified Planning Tool to Determine Staffing and Consultants Needs,** Lincoln Io, P.E.; Ramanjit Brar, P.E.
- **Bringing Design Build Procurement to Port Development,** Keith Abraham; Nigel Nixon, P.E.
- **How a Collaborative Design Assist Approach Rebuilds Tribe’s Fishing Port While Operating,** Edward DeBroeck, R.Eng, M.ASCE; Teusa GardnerBrown, AICP; Donald Oates, P.Eng., D.P.E., DBIA; Jacob Zacharda, Brian Ward

### Board Certification in Port Engineering

The highest level of advanced postlicensure certification for professional engineers.

For more information about board certification, visit [www.acopne.org](http://www.acopne.org).
## Technical Program

### Wednesday, September 18, 2019 (continued)

<table>
<thead>
<tr>
<th>Track A</th>
<th>Sterlings 1-2 (Innovative Technologies)</th>
<th>Track B</th>
<th>Sterlings 3</th>
<th>Track C</th>
<th>Benedum</th>
<th>Track D</th>
<th>Commonwealth 2</th>
<th>Track E</th>
<th>Commonwealth 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>9A: Equipment &amp; Systems</strong></td>
<td><strong>9B: Port Engineering (ASCE 61)</strong></td>
<td><strong>9C: Port Engineering (Retrofit, Upgrades)</strong></td>
<td><strong>9D: Port Engineering (Geotechnical)</strong></td>
<td><strong>9E: USACE Pittsburgh District Update</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Moderator:</strong> Phillip Ebling, P.E., M.ASCE</td>
<td><strong>Moderator:</strong> Gayle S. Johnson, P.E., M.ASCE</td>
<td><strong>Moderator:</strong> Matthew N. Martinez, S.E., P.E., D.PE, M.ASCE</td>
<td><strong>Moderator:</strong> Lane S. Conover, P.E., M.ASCE</td>
<td><strong>Moderator:</strong> Elizabeth Butchert, P.E., D.PE, ENV-SP, M.ASCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 12:00 – 1:30 p.m.

**Exhibit Hall Luncheon – Grand Ballroom**

### 12:30 – 5:30 p.m

**Lower Monongahela Lock and Dam Tour, Commonwealth 1**

---

**Build Your Future in Port Engineering**

Ports and harbors are exciting places to practice civil engineering. Unfortunately, few universities teach courses in port engineering; and fewer still offer degree programs. As a result, most port engineers learn their craft on the job or through continuing education, building on their training in structural, geotechnical, coastal, or other related engineering specialties.

ASCE and its Coasts, Oceans, Ports and Rivers Institute (COPRI) have been committed to advancing the practice of port engineering and helping civil engineers attain and demonstrate mastery of the Port Engineering Body of Knowledge (BOK).

For more than 40 years, the ASCE/COPRI PORTS conference series has been internationally recognized as the essential networking and continuing education opportunity for hundreds of port engineering professionals who share similar challenges and concerns.

At every stage of your career, Membership in ASCE and COPRI has its benefits. In addition to discounts on ASCE/COPRI products and services, members can grow their networks, gain leadership skills, and give back to the profession by participating in technical committees and local chapters. Learn more about ASCE and COPRI membership at www.asce.org/copri/join or copri@asce.org.
ACO provides systems for professional surface water drainage, efficient cleaning, and the controlled discharge or reuse of water.

Advisian is a leading provider of professional services to the resources and energy sectors and complex process industries.

Anchor QEA is a nationally recognized environmental science and engineering consulting firm that specializes in waterfront redevelopment, contaminated sediment remediation, and water resource management.

Our software solutions provide engineers tools for modeling groundwater and surface-water in the areas of hydrology and hydraulics to help complete demanding water resources projects.

Atlantic Track is recognized as a highly reliable source for quality and cost effective engineered crane runway system solutions by Port Operators and their Consultants

Bedford Technology is the leading manufacturer of structural recycled plastic lumber for commercial marine applications. Our products withstand extreme environments and are built to last.

Carmel Corrosion Systems produces protection pipe wraps, customer designed against corrosive marine environments. Easy installation on piles, risers, dolphins, used inland, offshore and deep sea.

ConeTec is a full service geotechnical and environmental site investigation contractor. We safely solve problems by generating high quality subsurface information used in geotechnical, environmental, and mining geotechnique. Our team of experts are dedicated to safe, quality, and efficient site investigations using the best possible equipment.

Denso is a leader in marine corrosion protection. Our SeaShield Marine System provides full line of steel, concrete and timber pile protection and rehabilitation.

Crofton is a full service marine contractor that provides focused, solution based approaches to port and waterfront facility owners above and underwater.

DHI is a software development and engineering consulting firm specializing in hydraulic and hydrological modeling software.

Dynamic Isolation Systems is a leading designer and manufacturer of Lead Rubber Bearings, Viscous Wall Dampers and a range of Non-Structural Isolation devices.
204 EagleLift
www.eaglelifting.com
EagleLift is an Engineering Contractor specialized in lifting and stabilizing sea walls, roadways, foundations, and sewer infrastructure that are affected by unstable soils using high density polyurethane foam.

406 ECOncrete
www.econcretetech.com
The world’s first proven bio-enhancing concrete products for coastal and marine construction. Our products meet the highest performance standards while improving biodiversity and water quality.

202 EJ USA, Inc
www.ejco.com
Infrastructure access solutions for seaport applications - from EJ - leaders in design, manufacture and distribution for water, sewer, drainage, telecommunications and utility networks worldwide.

313 Elliott Bay Design Group
www.ebdg.com
EBDG provides naval architecture, marine engineering and analysis services to port communities and waterfront developers from offices in Seattle, New Orleans, Ketchikan, and New York.

418 ESL
www.eslpwr.com
ESL Power Systems, Inc. specializes in the design and manufacturing of safety-interlocked power solutions for port/terminal and container ship applications across the globe.

213 Esri
www.esri.com
Manage, plan, analyze, map, monitor and communicate from one technology platform. Seize the power of location with Esri’s ArcGIS Platform.

303 Fugro
www.fugro.com
Fugro is the world’s leading, independent provider of site characterization and deep foundations testing for large constructions, infrastructure and natural resources.

504 Gantrex
www.gantrex.com
Gantrex is the leading provider of runway components for STS and Overhead Cranes. Our solutions include crane rail, pad, clips and concretesupported rail products.

312 Giken Ltd
www.giken.com
Giken has been a pioneer in the Press-M Piling Technology, which enables driving of sheet and tube piles with very low noise and no vibration.

501 Goettle
www.goettle.com
Richard Goettle, Inc. is a design-build geotechnical construction firm specializing in deep foundations, earth retention systems, marine structures, and ground modification for over 60 years.

208 Hayward Baker, Inc.
www.kellerfoundations.com
Hayward Baker, North America’s leader in geotechnical solutions, offers solutions for ground improvement, earth retention & sharing, foundation repair & underpinning, liquefaction mitigation, deep foundations, and groundwater control.

319 HDR
www.hdrinc.com
With experience designing harbor improvements, integrating resiliency planning and providing new-terminal program management, our custom maritime project teams create value through our multidisciplinary approach. Knowledgeable coastal and structural engineers use 2-D and 3-D models to plan and design port expansion and rehabilitation projects.

111 Headed Reinforcement Corp
www.hrcausa.com
High Performance Reinforcement Products for Structural Integrity and Constructability.

214 HUESKER/PROSERVE
www.huesker.us

105 Jacobs
www.jacobs.com
Jacobs is one of the world’s largest and most diverse providers of technical, professional, and construction services, including all aspects of architecture, engineering and construction, operations and maintenance, as well as scientific and specialty consulting.

509 JD Fields & Company
www.jdfields.com
JD Fields is a steel foundation and marine piling supplier delivering, comprehensive geosynthetic systems and solutions to the port marine and deep foundation markets. We continue to set the industry piling standard with high strength grades and innovative steel wall systems. With a blend of international and domestic piling products, our sales and technical professionals are positioned to provide engineering and contracting professionals with application, material procurement and delivery guidance to exceed your project demands.

212 Junttan USA
www.junttan.com
Junttan Oy designs and manufactures hydraulic piling equipment. The Junttan product range is comprised of the world’s leading pile driving rigs, multipurpose piling and drilling rigs, deep stabilization rigs, as well as hydraulic impact hammers, rotary heads, and power packs. Combining state-of-the-art piling equipment with uncontested customer service and sheer determination to go great lengths to help customers succeed, Junttan can improve also your operational efficiency.

211 L.B. Foster Company
www.lbfoster.com
L.B. Foster is a leading supplier of steel sheet piling, pipe piling, H beams and piling accessories to the construction industry for over 80 years.

210 Manson Construction
www.mansonconstruction.com
Manson Construction Co. is a leading heavy civil marine contractor with a fleet of heavy marine equipment that includes 60 specialized vessels and over 50 barges. Our services include dredging, waterfront construction, bridge building, heavy lifts, and offshore work. Manson takes great pride in having a reputation for doing quality work that meets or exceeds the owner’s specifications and budget requirements and is completed safely and on time.

219 Marine Fenders International
www.marinefendersintl.com
Marine Fenders International is a global leader in marine fenders system, composite resilient buoys, composite camels, coated timber piles, Port Security Barrier systems and elastomer technology.

305 Marine Solutions
www.msimarinesolutions.com
Marine Solutions is a small, woman-owned, DBE specialized construction and engineering firm focused on building and maintaining waterfront, hydraulic, navigation, and bridge structures.

513 Marubeni America Corporation
www.marubeniamerica.com
Marubeni is the North American distributor of Filter Units, durable mesh bags that are filled with rock and deployed quickly and easily for erosion control.

318 McLaren Engineering Group
www.mgmclaren.com
McLaren Engineering Group’s marine department provides underwater inspection, design, permitting, and construction services in support of structural, geotechnical, rehabilitation, dredging, and coastal engineering projects worldwide.

317 Menard
www.menardgroupusa.com
Menard USA is one of the leading specialized ground improvement contractors in the U.S., with over 30 years of experience. We are the U.S. affiliate of Menard, a global leader among ground improvement contractors with offices in over 30 countries. Menard USA was formed as a merger between DGI (Drainage & Ground Improvement, Inc.), a leading Vertical Wick Drain installer in the US, and Menard.

115 Mitsubishi Chemical Advanced Materials
www.mccom.com
With 80 years of experience and 30 branch offices, we are the global leader for researching, developing, and manufacturing high-performance, engineered polymer materials.

207 Moffatt & Nichol
www.moffattnichol.com
As a leading global maritime engineering firm, Moffatt & Nichol specializes in the planning and design of port infrastructure to protect investments and build resiliency.

218 Matt MacDonald
www.mattmac.com
Matt MacDonald is a vibrant infrastructure development and engineering company with 180 offices worldwide and over 60 offices in the United States and Canada.

412 Neenah Foundry
www.nfco.com
Neenah Foundry’s extra heavy duty airport and port castings are exclusively manufactured to support the loadings imposed by all commercial and military aircraft.

309 Nicholson Construction Company
www.nicholsonconstruction.com
Nicholson is a leader and innovator in the geotechnical construction industry with expertise in deep foundations, earth retention systems and ground treatment solutions.
ADA Compliance
The Wyndham Grand Pittsburgh Hotel is barrier-free in compliance with the Americans with Disabilities Act (ADA). Assistive listening devices may be ordered from the Hotel with advance notice. While ASCE/COPRI will make every effort to meet the needs of the physically challenged, accommodations cannot be guaranteed without prior notification.

ASCE Bookstore Hours
Sunday, September 15  5:00 – 8:00 p.m.
Monday, September 16  7:00 a.m. – 5:30 p.m.
Tuesday, September 17  7:00 a.m. – 5:30 p.m.
Wednesday, September 18  7:00 a.m. – 1:30 p.m.

ASCE Continuing Education
Visit the ASCE Continuing Education display to find out more about COPRI’s guided online short courses.

Assumption of Risk
All ASCE events and activities are purely voluntary activities, and attendees are fully responsible for their own conduct and well-being, including, and without limitation, determining their level of fitness to take part in any such event or activity. In participating in any event or activity, attendees shall be deemed to understand and accept all risk of possible physical injury that might occur as a result of such participation. Children under the age of 18 are not allowed in the exhibit hall.

Attire
The dress code for the conference is business attire (i.e. ties, dress shirts, suits) unless otherwise noted below.
- Sunday – Student and Young Professionals Reception and Welcome Reception – Business Casual
- Tuesday – Gala Social Event – Business Casual
- Wednesday – Technical Tour – Sleeved shirt, long pants, closed-toe shoes.

Meeting room temperatures will vary, so wear layered clothing to ensure your personal comfort. We also recommend attendees wear comfortable shoes.

Badge Policy and Ribbons
Your name badge is your admission to the educational sessions. Please wear your badge at all times while in the hotel. ASCE/COPRI recommend you remove your badge when leaving the hotel. Tickets are required for meal events. Where tickets are required, please be sure to bring your tickets with you to each event as you will not be admitted without a ticket. Ribbons will be available at the Registration Desk.

Diversity and Inclusion
The ASCE policy of Diversity and Inclusion fosters a culture that encourages the free expression and exchange of engineering ideas by all members, regardless of gender, race, ethnic origin, religion, age, marital status, sexual orientation, disabilities, or any other reason not related to scientific or technical merit.

Medical Emergencies
The Wyndham Grand Pittsburgh Hotel and ASCE hopes that your visit to PORTS® '19 will be free from illness or injury, but in case you or a family member needs medical attention during your time at the event, contact the front desk.

The nearest urgent care facility is:
University of Pittsburgh Medical Center (UPMC) – Urgent Care
5245 Centre Ave
Pittsburgh, PA 15232
(412) 623-4114

Meeting Room Overcrowding
ASCE will make every effort to schedule popular events in rooms large enough to accommodate anticipated attendance. Since many events are extremely popular, it is wise to select alternative events as you plan your conference schedule. ASCE and the Wyndham Grand Pittsburgh Hotel are REQUIRED to follow local fire regulations and may ask participants in rooms filled to capacity to choose another event.

How Do I Receive PDH Credit?
Automated PDH Tracking
When you pick up your registration badge and tickets, you will notice a badge which includes your name and a bar code specific to your registration. Before you enter a Technical Session room, you must scan your bar code badge in order to receive credit. The scanner will acknowledge a successful recording of your name for the specific session. We strongly recommend you scan your badge at the beginning of each session to eliminate any challenges and/or lines later. An email will be sent to registrants within 30 days after the conference with information on how to claim your PDH credits.

Program and Session Cancellation
ASCE reserves the right to cancel programs and/or sessions. In the unlikely event of a cancellation, all registrants will be notified. Programs and sessions are subject to change, and ASCE reserves the right to substitute a program, session, and/or speaker of equal caliber to fulfill the educational requirements.

Photographs and Video
Photographs and Video of the event may be taken by ASCE, its agents, contractors, or representatives, and such photographs and video may be used for any purpose at ASCE discretion.

Registration Hours
*Closed for lunch from 10:00 – 11:00 a.m. Sunday; 11:30 a.m. – 1:00 p.m. Monday; 12:00 – 1:30 p.m. Tuesday
- Sunday  6:30 a.m. – 6:30 p.m.
- Monday  6:30 a.m. – 4:00 p.m.
- Tuesday  6:30 a.m. – 5:30 p.m.
- Wednesday  6:30 a.m. – 2:00 p.m.

The registration desk is located in the Grand Ballroom Foyer.

Port Engineering Certificate
Recently, COPRI recognized the lack of training resources for engineers looking to enter or advance in port engineering and created the Port Engineering Certificate in response. Offered by ASCE Continuing Education and COPRI’s Ports and Harbors Committee, and taught by Board Certified Port Engineers entirely online, the registrations and reviews of the initial courses have exceeded our expectations and demonstrate the need for these courses.

Five 12-week Guided Online Courses
(12 CEUs/120 PDHs)

COURSE LIST
- Introduction to Port Engineering
- Design of Port Facilities
- Construction of Port Facilities
- Seismic Design of Piers and Wharves
- Geotechnical Design of Port Facilities

Visit the ASCE Continuing Education display in the Grand Ballroom Foyer to hear more about the Port Engineering Certificate. Or visit us online at go.asce.org/PortCE

www.portsconference.org
Thank You to Our Sponsors!
Contributions from the following sponsors will enable the PORTS® ‘19 Conference to continue its commitment to excellence in programming and networking events for attendees.

<table>
<thead>
<tr>
<th>Platinum</th>
</tr>
</thead>
<tbody>
<tr>
<td>WSP</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>COLLINS ENGINEERS INC</strong></td>
</tr>
<tr>
<td>Port of Long Beach The Green Port</td>
</tr>
<tr>
<td><strong>WRA</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Silver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AECOM</strong></td>
</tr>
<tr>
<td><strong>MARINE SOLUTIONS</strong></td>
</tr>
<tr>
<td><strong>moffatt &amp; nichol</strong></td>
</tr>
<tr>
<td><strong>kpff</strong></td>
</tr>
<tr>
<td><strong>Port of Pittsburgh Commission</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bronze</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appledore Marine Engineering, LLC</td>
</tr>
<tr>
<td>Mott MacDonald</td>
</tr>
<tr>
<td>S.T. Hudson Engineers, Inc</td>
</tr>
<tr>
<td>COWI</td>
</tr>
<tr>
<td>Port of Los Angeles</td>
</tr>
<tr>
<td>McLaren Engineering Group</td>
</tr>
<tr>
<td>Port of Oakland</td>
</tr>
<tr>
<td>W.J Castle, P.E. &amp; Associates, P.C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childs Engineering Corporation</td>
</tr>
<tr>
<td>Reid Middleton</td>
</tr>
<tr>
<td>GeoEngineers</td>
</tr>
<tr>
<td>Urban Engineers</td>
</tr>
<tr>
<td>Pare Corporation</td>
</tr>
</tbody>
</table>

Corporate Sponsors

For up-to-date information, visit www.portsconference.org