

Record of Professional Development Hours

Please enter the amount of PDH credits earned for each session in the **PDH Earned** column. The total PDH credits earned for the 2017 Annual Conference will be shown at bottom.

FORM SUBMITTAL DEADLINE – SEPTEMBER 30, 2017

PLEASE NOTE: FORM MUST BE RECEIVED BY THE DEADLINE OR IT WILL NOT BE PROCESSED. THANK YOU.

Time	Session Description	PDH Credit	PDH Earned
Monday September 18, 2017			
10:15 am	Engineering Services Presentation Automating On-dock Intermodal – Port of Los Angeles' New TraPac ICTF		
10:45 am	Communications & Signals Presentation Crossing Activation Through PTC		
11:15 am	Track Presentation An Assessment of the Applicability of Heavy Point Frogs to Joint High Speed Passenger and Freight Operations		
11:45 am	Structures Presentation The Portageville High Bridge Replacement Project		
12:15 pm	Passenger & Transit Presentation Accelerated Design-Build Replacement of SEPTA's Crum Creek Viaduct		
12:45 pm	Maintenance Presentation Effective and Practical Maintenance Solutions for Chronic Subgrade Locations		
TOTAL for Monday General Session		3.0	

Tuesday | September 19, 2017

Technical Sessions: Communications & Signals

8:00 am	Automated Verification and Validation of Signaling Systems in PTC and CBTC Environments		
8:30 am	Remote Grade Crossing Health Reporting Utilizing VHF Radio		
9:00 am	The PTC Back Office Segment Design Criteria		
9:30 am	Intrinsically Failsafe Radar As An Alternative To Track Circuits		
10:30 am	Fiber Optic Acoustic Detection (FOAD) as a Base Technology for Railroad Applications		
11:00 am	Alternative Engineering Methods Where Signalized Roadway Intersections Are In Close Proximity to Highway-Rail Grade Crossings		
11:30 am	Distance to Couple (DTC)		

Tuesday | September 19, 2017 (Continued)

TOTAL for Communications & Signals Technical Session 3.5

Tuesday | September 19, 2017

Technical Sessions: Engineering Services

- 8:00 am X-ray Technology Development for New Wood Crosstie Inspection
- 8:30 am Helping the Public Understand the Environmental Benefits of Rail
- 9:00 am BNSF ARRA Task 17 Landslide Reduction Projects on the Scenic Subdivision – Design, Permitting, and Construction Considerations
- 9:30 am CSX Virginia Avenue Tunnel Reconstruction Project: A Case Study in Managing Community Relations from an Engineering Perspective, While Replacing Critical Infrastructure
- 10:30 am AREMA Committee 16 Panel Discussion – Train Length and Capacity Considerations (1 Hour)
- 11:30 am Using Big Data to Improve the Intermodal Transportation System
- 2:00 pm Implementation of a Shared Use Rail Corridor: The Freight Perspective
- 2:30 pm Mitigating Switch Derailments Using Automated Inspection Solutions
- 3:00 pm Increasing Terminal Capacity Utilizing Wide Span Cranes at BNSF Logistics Park – Chicago
- 3:30 pm Design Challenges with Navy Base Intermodal Facility (NBIF) in the South Carolina Lowcountry

TOTAL for Engineering Services Technical Session 5.5

Technical Sessions: Maintenance

- 8:00 am Highway-Railway At-Grade Crossing Designs Containing Asphalt Underlayments
- 8:30 am Emergency Response to a Rockslide on BNSF Snowshed #4, Stampede Pass, WA
- 9:00 am Do Undercutting Cleaning – Be on the Right Track to Economic Success!
- 9:30 am Preventing Rail Base Corrosion and Cracking Using Protective Coatings
- 10:30 am Enhancing Structural Visual Inspection of Railroad Bridges Using HoloLens
- 11:00 am Development and Validation of Inspection Gauges for Wheel Climb Safety at Switch Points
- 11:30 am Automated Frog Repair on Austenitic Manganese Rail Steel
- 2:00 pm Ballast State of Good Repair
- 2:30 pm Demonstration of FRA's Technology to Characterize Fouled Ballast Track
- 3:00 pm East Portland Connection Track Expansion

Tuesday | September 19, 2017 (Continued)

3:30 pm Large-diameter Cured-in-place Pipe (CIPP) Point Repair Offers an Economical Alternative to Total Pipe Replacement for Prematurely Failing Culverts

4:00 pm Repair of Subgrade Failure During a 104-Hour Track Window, BNSF Railway – Little Falls, Minnesota

TOTAL for Maintenance Technical Session 6.0

Technical Sessions: Passenger & Transit

8:00 am Malmö City Tunnel Project-2016 AREMA Watford Fellows Program in Scandinavia

8:30 am Insulated Overlaps for Overhead Contact Systems – Operational and Safety Concerns

9:00 am The MBTA Red and Orange Line Infrastructure Improvements Program – Addressing Infrastructure Needs While Maintaining Service

9:30 am Indiana Gateway Project

10:30 am Best Practices for Mapping Rail Assets in Highly Urbanised Environments - A Case Study from the BART Network

11:00 am Engineering a Slab Track System to Increase Adjustability and Reduce Construction Time

11:30 am Chicago – St. Louis High Speed Rail Program Update

2:00 pm Rail Geometrical Behavior Under Revenue Service in Rail Transit Systems

2:30 pm Improving the Quality and Durability of Track Geometry Correction for 160+ mph High Speed Rail Operations

3:00 pm North Carolina's Charlotte Gateway Station Project – Design and Construction of "Rail Side" Improvements

3:30 pm Lessons Learned from Colorado's Longest Direct Fixation Bridge

TOTAL for Passenger & Transit Technical Session 5.5

Technical Sessions: Structures

8:00 am Update on FAST Bridge Research and Testing

8:30 am Port of Vancouver, WA – West Vancouver Freight Access Trench Project

9:00 am A New Way to Detect Bridge Strikes with Neural Network Pattern Recognition

9:30 am Strengthening CN's Sault Ste. Marie International Bridge

10:30 am Drones Have Changed Bridge Inspections Forever: Background, Benefits, Case Study

11:00 am Reconstruction of the 90' TPG Swing Span over Bayou Des Allemands

11:30 pm Montana Rail Link Bridge No. 207 Truss Rehabilitation

2:00 pm Haystack Bridge: Repurpose of a Bascule

Tuesday | September 19, 2017 (Continued)

- 2:30 pm Thermal Integrity Profiling Accelerates Construction of Railroad Projects
- 3:00 pm Innovative Foundations for a Caustic Environment
- 3:30 pm Review of the Euro Code Crash Wall Requirements in the North American Context: Case Study
- 4:00 pm UPRR – OCCI – Emergency Stabilization of Two Brazos River Piers – UPRR Bridge 32.42, Richmond, TX
- 4:30 pm Impact Rating of Semi-trailer Truck – Railway Through Plate Girder (TPG) Bridge Collisions

TOTAL for Structures Technical Session 6.5

Technical Sessions: Track

- 8:00 am Principles of Drainage
- 8:30 am Emergency Stabilization of Fountain Slide to Maintain CN Rail Service
- 9:00 am Life Cycle Benefits of Subgrade Reinforcement Using Geocell on a High-Speed Railway – A Case Study
- 9:30 am Asphalt Railway Trackbed Designs, Applications, and Long-Term Performances
- 10:30 am Automated Concrete Crosstie Testing
- 11:00 am The Influence of Copper Content on Rail Steel Properties and Performance
- 11:30 am Comparative Analysis of Rail Grinding Template Alignment Methods
- 2:00 pm KCS Utility Permitting & Construction Observation – A Proven Process for Risk Mitigation & Safety
- 2:30 pm Under the Gun: CSX Transportation's Emergency Response to the Historic Flooding on the Fort Bragg Subdivision
- 3:00 pm Ballast Mats - A Literature Review and Influencing Factor to Laboratory Testing
- 3:30 pm Key Structural Conditions that can Compromise Concrete Crosstie Service Life
- 4:00 pm Causes and Prevention of Splitting/Bursting Failure of Concrete Crossties: A Computational Study

TOTAL for Track Technical Session 6.0

Wednesday | September 20, 2017

- 8:45 am **Passenger & Transit Presentation**
Building California High-speed Rail – A Look at the First Construction Package (CP1)
- 9:15 am **Maintenance Presentation**
Utilizing Wireless Sensors to Provide Condition Based Monitoring of Railway Assets
- 9:45 am **Engineering Services Presentation**
FRA Autonomous Track Geometry Measurement Technology Development – A Success Story
- 10:45 am **Track Presentation**
Survey of Parameters to Characterize Fouled Ballast

Wednesday | September 20, 2017 (Continued)

11:15 am **Communications & Signals Presentation**
Evaluating Driver Compliance at Highway-Rail Grade Crossings

11:45 am **Structures Presentation**
Brine Flies and Boxcars: Building a New Bridge on the Great Salt Lake Causeway

TOTAL for Wednesday General Session 3.0

TOTAL PDH Credits Earned

PLEASE NOTE: YOU MAY ONLY SUBMIT CREDIT FOR ONE FULL TRACK ON TUESDAY. YOU CANNOT SPLIT TUESDAY CREDIT HOURS.

Return this form to AREMA via fax (301-459-8077) or e-mail (meetings@arema.org). Your PDF Certificate will be mailed to you after the deadline. For questions regarding this form, please contact Desirée Knight at dknight@arema.org.

Full Name		Member ID	
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<input type="radio"/> I certify that I attended the sessions indicated above.			
Signature		Date	

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