Western Bridge Engineers’ Seminar

September 4 – 6, 2019

BRIDGES – CURRENT CHALLENGES AND EFFECTIVE SOLUTIONS

The Boise Center | Boise, Idaho

MANAGEMENT BY

Professional Education

[Image of the seminar logo]

Tuesday, September 3

6:00 – 8:00 PM  ICEBREAKER RECEPTION

Wednesday, September 4

7:30 AM – 5:00 PM  EXHIBIT HALL OPEN

7:30 – 8:30 AM  CONTINENTAL BREAKFAST

8:30 – 10:00 AM  WELCOME & OPENING REMARKS

- Welcome and Opening Remarks
  Matt Farrar • Idaho Transportation Department

- Welcome to Idaho
  Blake Rindlisbacher • Idaho Transportation Department

- Keynote: Gerald Desmond Bridge Replacement Project
  Steve MacLennan P.E., Michael Borzok P.E. • WSP USA

10:00 – 10:30 AM  EXHIBIT BREAK

10:30 AM – Noon  TECHNICAL SESSIONS

2A  PRESTRESSED CONCRETE BRIDGES

- Recent Advances in Precast/Prestressed Concrete Bridge Girder Design
  Richard Brice • Washington State DOT

- 10th Avenue over Indian Creek Bridge Replacement (Caldwell, Idaho)
  Sean Murphy P.E. M. ASCE • Jacobs Engineering Inc.

- Under the Neon Lights: Project Neon HOV Flyover
  Nicholas Eggen • HDR Engineering Inc.

2B  HYDRAULICS, SCOUR, AND ANIMAL PASSAGE

- Hydraulic and Scour Analyses for a Mission Critical Bridge
  Weixia (Way-sha) Jin Ph.D. • Moffatt and Nichol

- Real-Time Pier Scour Monitoring of Arctic Bridges
  Mark McBroom P.E. • Michael Baker International

- I-90 Animal Overpass Structure
  Michael Carlgano P.E. • Contech Engineered Solutions LLC
  Brian White • Washington State DOT

2C  BRIDGE REHABILITATION & LOAD RATING

- Rehabilitation of the Historic Rockville Truss
  Brian Byrne P.E., Guy Evans P.E. • Lochner

- NSM Titanium Alloy Bar Shear Strengthening of PT Box Girder Bridge
  Travis Kinney • Oregon DOT

- Simplified Approach to Load Rating of Corrugated Steel Culverts
  Vietanh Phung Ph.D. S.E., Kash Nikzad Ph.D. P.E. • Trans Tech Engineering

Noon  LUNCH

* Final agenda subject to change. 15 Professional Development Hours (PDHs) available for full attendance.
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<td>TECHNICAL SESSIONS</td>
<td>3A BRIDGE RESEARCH TOPICS</td>
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|              |                                | Long Term Bridge Performance Program Status Update and the Recently Released Cloud-Based InfoBridge™ Web Portal  
Jean Nehme • FHWA |
|              |                                | Shear Strengthening of Steel Bridge Girders Using Small-Diameter Carbon Fiber Reinforced Polymer (CFRP)  
Hamid Kazem, Ph.D. • Kleinfelder |
|              |                                | Use of High Early Strength Concrete Class 50AF with Polypropylene Fibers as a Cost-Effective Alternative for Connecting Precast Bridge Girders in the Field  
Arya Ebrahimipour • Idaho State University  
Leonard Ruminski • Idaho Transportation Department |
|              | STEEL BRIDGE DESIGN           | Cross Frame Design for Curved and Skewed Bridges Using AASHTO LRFD 8th Edition  
Travis Butz S.E., Jeff Hunter P.E. • Burgess and Niple |
|              |                                | 8th Street Bridge  
Eric Bonn, P.E. • OBEC Consulting Engineers, a DOWL LLC Co. |
|              |                                | Steel Bridge Member Resistance: AASHTO Compared to Other International Codes  
Terry Cakebread • LUSAS |
| 3:00 – 3:30 PM | EXHIBIT BREAK                |                                                                      |
| 3:30 – 5:00 PM | TECHNICAL SESSIONS           | 4A BRIDGE INSPECTION AND EVALUATION                                  |
|              |                                | M7.0 Anchorage Earthquake: AkDOT Bridge Inspection Response  
Jesse Escamilla III • Alaska DOT&PF |
|              |                                | Nondestructive Load Testing of Bridges: An Oregon Perspective  
Travis Kinney • Oregon DOT |
|              |                                | Resistograph Inspection and Repair Methods for Timber Bridges  
Amanda Blankenship, Laura Baughman  
• David Evans and Associates, Inc. |
|              | BRIDGE SEISMIC DESIGN         | Seismic Analysis and Design of Earth Retaining Systems  
Gary Wang • CalTrans |
|              |                                | Probabilistic Damage Control Assessment (PDCA) Part 1: Introduction, Theoretical Background & Procedures  
Mark Mahan Ph.D. • CalTrans |
|              |                                | Probabilistic Damage Control Assessment (PDCA) Part 2: Example Applications to Caltrans Bridge Seismic Design  
Yeo (Tony) Yoon • CalTrans |
|              | BRIDGE DESIGN AND CONSTRUCTION | Design Considerations for the Manning Crevise Bridge Replacement  
Kenneth C. Saindon P.E. S.E. • Neel-Schaffer, Inc.  
Alex Whitney, P.E. • HDR  
Benn Oltmann, P.E. • FHWA |
|              |                                | Construction Considerations for the Manning Crevise Bridge Replacement  
Ben Oltmann P.E. • FHWA  
Jesse Webb • Idaho Transportation Department  
Kenneth C. Saindon P.E. S.E. • Neel-Schaffer, Inc. |
|              |                                | Design and Construction of the Keechelus Lake Avalanche Bridges  
Cory Caywood P.E. S.E. • Jacobs Engineering Inc. |
| 5:00 – 7:00 PM | EXHIBITOR RECEPTION          |                                                                      |

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### Thursday, September 5

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| 5A ABC & UHPC    | Replacement of a Multi-Span Bridge Over the Snake River Applying Accelerated Bridge Construction Methods  
Shane Brown P.E. S.E. • Parametrix  
OR 22: Sougrass Creek Culvert Replacement (UHPC Joint Fill in Side by Side Deck Bulb Tees)  
Robert Tovar P.E. • Oregon DOT  
Design and Construction of the Tacoma I-5/5R-16 Interchange HOT Connections: Implementing Features to Accelerate Construction  
Thomas Wilson • WSP USA |
| 5B BRIDGE PRESERVATION | “Bridge Apocalypse”: Emergency Bridge Strike Support  
Jared Levings S.E., Nicholas Murray • Alaska DOT & PF  
Development of Seismic Retrofits for RC Bridge Columns Using Titanium Alloy Bars  
Christopher Higgins • Oregon State University  
Yesler Way Over 4th Avenue S Bridge: Reconstruction and Preservation  
Yanqiang (Carl) Gao • Seattle DOT  
Lee Andrews P.E. S.E. • HDR |
| 5C LIGHT RAIL BRIDGES | High Load Multirotational Bearings for the HART Project in Hawaii  
Ronald J. Watson • R.J. Watson, Inc.  
CMGC Design and Construction for a New Transit Corridor in San Diego: Genesee Viaduct  
Spliced Girders  
Pooya Haddadi, Amiri Ebrahim, Nathan Johnson • WSP USA  
Design and Construction of the Light Rail Transit Overhead Crossing Seismic Fault Zones  
Sami Megally Ph.D., Keith Gazaway P.E. • Kleinfelder |
| 10:00 – 10:30 AM | EXHIBIT BREAK                        |
| 10:30 – Noon     | TECHNICAL SESSIONS                   |
| 6A SEISMIC DESIGN AND RETROFIT | Strong Ground Motions of the 2018 Anchorage Earthquake  
Nicholas Murray • Alaska DOT & PF  
Widening and Phase 2 Seismic Retrofit: Sunnyside Road over I-205 Design Challenges  
Douglas Kirkpatrick P.E., Guy Hakanson P.E. • OBEC Consulting Engineers, a DOWL LLC Co.  
Seismic Retrofit of the Approach Bridges to the I-90 Floating Bridge Over Lake Washington  
Yakov Polyakov, Matthew Barber • WSP USA |
| 6B ABC PROJECTS  | ABC Techniques on the Garnet Interchange Project  
Jared Olsen S.E., Adam Drinkwalter • Horrocks Engineers  
Percy Percafie • Nevada DOT  
Dan Ferris • Ames Construction, Inc.  
Constructability Based Design for Accelerated Bridge Construction  
Gregg Reese P.E., Andrew Mish P.E. • Modjeski and Masters  
A Precast Pier System for Accelerated Bridge Construction in High Seismicity  
Mustafa Mashal Ph.D. P.E. • Idaho State University  
Leonard Ruminski P.E. • Idaho Transportation Department |
| 6C BRIDGE ASSET MANAGEMENT AND LOAD RATING | Inspection Data in Action  
Elizabeth Hunt • Oregon DOT  
Redundancy Analysis of the St. Johns Suspended Spans  
Greg Griffin, Tim Link P.E. • David Evans and Associates  
Bridge Economy and Life Cycle Costs of Steel and Concrete Bridges  
Michael Barker Ph.D. P.E. • University of Wyoming |
| Noon            | LUNCH                                |

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### 1:30 - 3:00 PM  TECHNICAL SESSIONS

#### 7A RAILINGS, BEARING & JOINTS

- **2019 MASH Two-Tube Bridge Rail**  
  Sara Manning P.E., Elmer Marx P.E. S.E. • Alaska DOT&PF
- **Experiences in the Performance of Bridge Bearings and Expansion Joints Used For Highway Bridges**  
  Bijan Khaleghi Ph.D. P.E. S.E. • Washington State DOT
- **Simple Approach to Calculate Displacements and Rotations in Integral Abutment Bridges**  
  Suhaib Albhaisi Ph.D. P.E., Mohammed Maqbool  
  • Stantec

#### 7B LONG SPAN CONCRETE BRIDGES

- **Designing Precast/Prestressed Concrete Bridge Girders for Lateral Stability**  
  Richard Brice • Washington State DOT
- **Long-Span Lightweight Concrete Bridges... and the Parrots Ferry Bridge**  
  Reid W. Castrodale Ph.D., P.E. • Expanded Shale, Clay and Slate Institute
- **Design and Construction of the Centennial Bowl Interchange (Las Vegas, NV)**  
  Michael Taylor • Nevada DOT

#### 7C LESSONS LEARNED FROM DESIGN & CONSTRUCTION

- **San Mateo Bridges Replacement Project, San Mateo, California**  
  Benjamin L. Consolacion • WSP USA
- **Lightweight Backfill Solutions to Bridge Problems**  
  Jason Hickey P.E. S. • Mark Thomas  
  Tyler Bodnar • California Nevada Cement Association
- **Structures Design and Construction for the Historic Columbia River Highway State Trail – Wyeth to Starvation Creek Segments**  
  Gary Conner P.E. S.E. • Jacobs Engineering Inc.

#### 7D INNOVATIONS

- **Design Challenges of a Cut-and-Cover Tunnel Widening**  
  Brad Wilton • T.Y. Lin International  
  Patrick Wilson • Earth Mechanics, Inc.
- **Moving Forward from Failure: Adhesive Anchors**  
  Tanarat Potsuk S.E. • Oregon DOT
- **10 ″ Diameter CMP Replacement under High Fill with In-Place Tunnel Liner**  
  Jonathan Tronson, Tom Greer • Burns & McDonnell  
  Darren LaMay • Idaho Transportation Department

### 3:00 – 3:30 PM  EXHIBIT BREAK

### 3:30 – 5:00 PM  TECHNICAL SESSIONS

#### 8A BRIDGE PRESERVATION

- **Proposed AASHTO Historic Bridge Preservation Guide Specification**  
  Ray Bottenberg P.E. S.E. • Oregon DOT
- **When Concrete Isn’t Concrete: Preserving the Dry Canyon Bridge**  
  Rebecca Burrow • Oregon DOT
- **WSDOT’s Bridge Deck Preservation Plan for Notable Large Bridges**  
  DeWayne Wilson • Washington State DOT

#### 8B SUBSTRUCTURE AND SEISMIC DESIGN

- **Post-Earthquake Functionality of ABC Bridges with Column Connections with Self-Centering Capability**  
  Bijan Khaleghi Ph.D. P.E. S.E. • Washington State DOT
- **Innovative Ductile Seismic Shear Keys**  
  Majid Sarraf • Michael Baker International
- **Trancas Creek Bridge Replacement Project**  
  Ahmadrze Morozaie Ph.D. • CalTrans

#### 8C UNIQUE BRIDGE SOLUTIONS

- **Construction of the Lewis and Clark Cable-Stayed Bridge over the Ohio River**  
  Marcos P Loizias P.E. • Jacobs Engineering Inc.
- **Elkhorn Drop Ramp Structure**  
  Percy Penafiel • Nevada DOT
- **Keller Ferry Landings Project**  
  Amy Leland P.E. S.E. • Washington State DOT

#### 8D STEEL BRIDGE TOPICS

- **AASHTO-NSBA Guidelines for Resolution of Steel Fabrication Errors**  
  Heather Gilmer • HRV Conformance Verification Associates, Inc.
- **Steel Girder Heat Straightening from Impact**  
  Tyler Thomas • Flame-On, Inc.
- **New and Exciting in Bridge Welding Changes**  
  Ronni Medlock P.E. • High Steel Structures

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Friday, September 6

7:30 – 8:30 AM CONTINENTAL BREAKFAST

8:30 – 10:00 AM TECHNICAL SESSIONS

9A INNOVATIVE SOLUTIONS

- Use of Cone Penetration Test (CPT) in Design of Bridge Foundation Piles Subject to Liquefaction
  Sharid Amiri Ph.D. P.E. • Caltrans

- Latest Advances in Large Span Flexible Buried Bridges
  Joel Hahm P.E. • Big R Bridge

- WSDOT Ferry Terminal at Colman Dock: Pedestrian Bridge Utilizing Innovative Materials for ABC
  Geoff Swett • Washington State DOT

9B BRIDGE REHABILITATION AND INSPECTION

- Rehabilitation & Deck Replacement of the Columbia River Bridge at Umatilla
  Anthony Mizumori S.E. • Washington State DOT

- Overview of WSDOT’s Bridge Deck Replacements on Prestress Girder Bridges
  Andre’ La Foe • Washington State DOT

- Implementation of and Recommendations for AASHTO Guidelines for Complex Bridge Inspection
  Brian Leshko P.E. • HDR Engineering Inc.

9C SEISMIC PAST AND PRESENT

- A General Overview of SDC 2.0 Changes to Caltrans Seismic Design Criteria
  Christian Unanwa Ph.D., Mark Mahan • CalTrans

- The Use of U-Shaped Flexural Plates for Supplemental Damping in Seismic Resilient Bridges
  Jared Cantrell, Mustafa Mashal, Ph.D. P.E. • Idaho State University

- The Evolution of Seismic Design Requirements for Oregon Highway Bridges
  Albert Nako P.E. • Oregon DOT

10:00 – 10:30 BREAK

10:30 – Noon CLOSING GENERAL SESSION

- UHPC: The Game Change of the Future
  Ben Graybeal Ph.D. P.E. • FHWA

- The AASHTO Service Life Design Guide Will Be in Your Future
  Tom Murphy Ph.D. P.E. S.E. • Modjeski and Masters

- Model Based Design/Construction: “Planless” Delivery of Utah Bridges
  Daniel Jensen P.E. • Michael Baker International

- Closing Remarks
  Matt Farrar • Idaho Transportation Department

- Invitation to WBES 2021
  Tom Ostrom • CalTrans

Noon ADJOURN

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