

Protections 2016: Technical Program

Day 0: Tuesday, September 6, 2016

18:00 – 21:00 Early Registration and Reception at Conference Hotel (Hilton Inn – Fort Collins, CO)

Day 1: Wednesday, September 7, 2016

7:00 – 7:30 Transportation from Hotel to Lory Student Center

7:30 – 8:00 Registration and Welcome Coffee

8:00 – 8:15 Opening Address (C. Thornton, CSU; M. Toledo, UPM)

8:15 – 8:45 Keynote 1: CSU Flume Studies Overview (C. Thornton, CSU)
Moderator: T. Wahl, Bureau of Reclamation

8:45 – 9:20 Technical Session 1: Embankment Overtopping Modeling Using WinDAM Software
Moderator: T. Wahl, Bureau of Reclamation

1. Modeling Overtopping Performance Using WinDAM B (K. Visser, NRCS)

9:20 – 9:45 Coffee Break

9:45 – 11:00 Technical Session 2: Extreme Flood Events
Moderator: B. Crookston, Schnabel Engineering

2. Areal-Reduction Factors for the Colorado Front Range and Analysis of the September 2013 Colorado Storm (D. Hultstrand, Applied Weather Associates)
3. Updating PMP to Provide Better Dam and Spillway Design (B. Kappel, Applied Weather Associates)
4. Using Risk to Inform Overtopping Protection Decisions (B. Fiedler, Bureau of Reclamation)

11:00 – 11:45 Keynote 2: Dams and Overtopping: A Polyhedral Relation (M. Toledo, UPM)
Moderator: B. Crookston, Schnabel Engineering

11:45 – 12:45 Lunch (provided)

12:45 – 14:50 Technical Session 3: Physical Modeling for Dam Overtopping
Moderator: C. Thornton, CSU

5. Insights from Laboratory Experiments on the Failure of Earthen Embankments at Bridge-Waterway Abutments (R. Ettema, CSU and K. Ng, Univ. of Wyoming)
6. Mechanism of Overtopping-Caused Erosion: A Closer Look (J. Wibowo, USACE)

7. Overflow for the Complete Failure of the Downstream Shell of a Rockfill Dam (R. Alves, UPM)
8. A Model for the Analysis of the Structural Failure of the Clay Core in Rockfill Dams Due to Overtopping (M. Toledo, UPM)
9. ~~Performance of Type III Stilling Basins for Stepped Spillways Selecting and Sizing Stilling Basins for Stepped Spillways~~ (K.W. Frizell, Bureau of Reclamation)

14:50 – 15:15 Coffee Break

15:15 – 17:00 Technical Session 4: Numerical Modeling Results
Moderator: T. Vermeyen, Bureau of Reclamation

10. Applications of Numerical Methods in Design and Evaluation of Overtopping Protection Systems (A. Larese, CIMNE)
11. Advances in the Understanding of the Hydraulic Behavior of Wedge-Shaped Block Spillways (R. Moran, UPM)
12. Hydraulic and Stability Analysis of the Granular Drainage Layer of Wedge-Shaped Blocks (F. Salazar, CIMNE)
13. Velocities and Pressure Distributions in Plunge Pools (L. Castillo, UPCT)

17:00 – 17:30 Transportation from Lory Student Center to Hotel

17:45 – 18:30 Transportation from Hotel to Sylvan Dale Guest Ranch

18:30 – 22:00 Welcome Dinner at Sylvan Dale Guest Ranch

22:00 – 22:45 Transportation from Sylvan Dale Guest Ranch to Hotel

Day 2: Thursday, September 8, 2016

7:00 – 7:30 Transportation from Hotel to Lory Student Center

7:30 – 8:00 Late Registration and Welcome Coffee

8:00 – 8:45 Keynote 3: Wedge-Shaped Blocks: A Historical Review (R. Moran, UPM)
Moderator: C. Thornton, CSU

8:45 – 10:00 Technical Session 5: Vendor Presentations of Protection Systems
Moderator: R. Ettema, CSU

14. Articulated Concrete Blocks (C. Fawcett, Contech)
15. Using an Innovative Revetment for Overtopping Protection of Levees and Dams (B. Cooley, Watershed)
16. Turf Reinforcement Mats (L. Pierce, Propex)

10:00 – 10:30 Coffee Break

10:30 – 11:45 Technical Session 6: Overtopping Protection Systems Design
Moderator: B. Fiedler, Bureau of Reclamation

17. Field Trial for Air Entrained Grout Enriched Roller Compacted Concrete (J. Young, Schnabel Engineering)
18. Soil-Cement Hard Protection for High-Velocity Spillway Flow Applications (K. Kadrmas, RJH Consultants)
19. Embankment Overtopping Protection by Riprap Considering Interstitial Flow (T. Wahl, Bureau of Reclamation)

11:45 – 12:45 Lunch (provided)

12:45 – 14:25 Technical Session 7: Overtopping Protection System Performance
Moderator: T. Hepler, Schnabel Engineering

20. Performance of RCC Used for Overtopping Protection and Spillways (K. Hansen, Consultant)
21. ACB Armoring Potential Failure Modes at Dam Embankments and Spillways (P. Schweiger, Gannett-Fleming)
22. Lessons Learned from Articulating Concrete Block (ACB) Field Installations (J. Nadeau, ACF Environmental)
23. Overtopping Performance of Earthen Dams during Record Flooding in Columbia, South Carolina (B. Crookston, Schnabel Engineering)

14:25 – 15:00 Coffee Break

15:00 – 16:40 Technical Session 8: Applications for Tailings Dams and Levees
Moderator: T. Wahl, Bureau of Reclamation

24. Root Causes of Tailings Dam Overtopping: The Economics of Risk and Consequence (D. Chambers, CSP2)
25. Proposed USACE EM 1110-2-1913: Erosion Analysis Guidance (S. Shewbridge, USACE)
26. Cost-Effective Numerical Modeling for Evaluation of Overtopping Protection Systems (J. Dababneh, RIZZO Associates)
27. Update of the EurOtop Manual: New Insights on Wave Overtopping (T. Pullen, HR Wallingford)

16:40 – 17:30 Roundtable Discussion and Seminar Closure

17:30 – 18:00 Transportation from Lory Student Center to Hotel

18:00 – 22:00 Courtesy Hotel Shuttle to/from Old Town (on your own)

Day 3: Friday, September 9, 2016

- 8:00 – 8:30 Transportation from Hotel to CSU Laboratory
- 8:30 – 11:00 Tour of CSU Laboratory, Flume, and Wave Simulator (C. Thornton, CSU)
- 11:00 – 12:00 Lunch (provided)
- 12:00 – 13:15 Transportation to Left Hand Valley Dam (Fairways Drive, Niwot CO)
- 13:15 – 14:00 Tour of Left Hand Valley Dam Overtopping Protection (Terry Plummer, Left Hand Ditch)
- 14:00 – 14:45 Transportation to Leyden Dam (78th and Indiana St, Arvada CO)
- 14:45 – 15:30 Tour of Leyden Dam Overtopping Protection (Patrick Dougherty, City of Arvada)
- 15:30 – 17:00 Transportation to Hotel