**Program**

### Sunday, April 29

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 pm - 6:00 pm</td>
<td>Registration Desk Open</td>
<td>Hyatt Regency Lobby</td>
</tr>
</tbody>
</table>

### Monday, April 30

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am - 6:30 pm</td>
<td>Registration Desk Open</td>
<td>Riverfront Hall Lobby</td>
</tr>
<tr>
<td>9:00 am - 4:30 pm</td>
<td>Committee Meetings</td>
<td>Various</td>
</tr>
<tr>
<td>5:00 pm - 6:00 pm</td>
<td>Opening Session</td>
<td>Regency Ballroom</td>
</tr>
</tbody>
</table>

#### Opening Session
- Welcome and Announcements, Dean Durkee, USSD President, Gannett Fleming, Inc.
- USSD Highlights from 2017, Dean Durkee
- ICOLD Update, Michael F. Rogers, ICOLD Vice President
- Introductions and Recognitions, Dean Durkee
- Leading by Example: Incorporating Sustainable Practices into Our Nation’s Dams and Levees, Kelly Schaeffer, Kleinschmidt Associates
- Technical Operation of K-Water’s Multi-Purpose Dams and Weirs, Dr. Kyeonsik Kim, General Director, Korea Water Resources Corporation (K-Water)

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:00 pm - 8:00 pm</td>
<td>Kickoff Reception and Exhibition Opening</td>
<td>Riverfront Hall</td>
</tr>
</tbody>
</table>

### Tuesday, May 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 am - 5:30 pm</td>
<td>Registration Desk Open</td>
<td>Riverfront Hall Lobby</td>
</tr>
<tr>
<td>7:00 am - 8:00 am</td>
<td>Continental Breakfast</td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>8:00 am - 10:00 am</td>
<td>Plenary Session</td>
<td>Regency Ballroom</td>
</tr>
</tbody>
</table>

#### Plenary Session
- Moderator — Christina Winckler, AECOM
- Welcome and Introductions, Dean Durkee, USSD President, Gannett Fleming, Inc.
- Taking Restoration to New Heights: How Local Sponsor Manages Dams and Levees in South Florida, Ernie Marks, Executive Director, South Florida Water District

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 am - 10:30 am</td>
<td>Break</td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>10:30 am - 12 noon</td>
<td>Plenary Special Session: Lessons Learned in a Year of Uncertainty</td>
<td>Regency Ballroom</td>
</tr>
</tbody>
</table>

#### Plenary Special Session: Lessons Learned in a Year of Uncertainty
- Critical Infrastructure in Conflict: Mosul Dam Lessons, Colonel Michael J. Farrell, Commander, Mosul Dam Task Force, USACE
- Results of the Oroville Dam Spillway Incident Forensic Investigation, John W. France, Vice President, AECOM
- Addicks and Barker: The Hurricane Harvey Experience, Rob Thomas, Chief of Engineering and Construction Division, Galveston District, USACE

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 noon - 1:15 pm</td>
<td>Circle of Excellence Luncheon</td>
<td>Jasmine/Hibiscus</td>
</tr>
</tbody>
</table>

#### Circle of Excellence Luncheon
- Moderator — Dean Durkee, USSD President
- Presentation of the Lifetime Achievement Award
- Presentation of the Public Safety and Security of Dams Recognition
- Presentation of the Excellence in the Constructed Project Award

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:30 pm - 3:00 pm</td>
<td>Concurrent Technical Sessions Track 1</td>
<td>Various</td>
</tr>
<tr>
<td>3:00 pm - 3:30 pm</td>
<td>Break</td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>3:30 pm - 5:30 pm</td>
<td>Concurrent Technical Sessions Track 2</td>
<td>Various</td>
</tr>
<tr>
<td>5:30 pm - 6:30 pm</td>
<td>USACE TownHall Meeting</td>
<td>Monroe</td>
</tr>
<tr>
<td>5:30 pm - 7:30 pm</td>
<td>Reception, Exhibition and Poster Session</td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>7:30 pm - 10:00 pm</td>
<td>Sunset over Miami Party, Celebrating our INCA Friends</td>
<td>Outside, Riverwalk Terrace</td>
</tr>
<tr>
<td>8:00 pm - 10:00 pm</td>
<td>Young Professionals Networking Social</td>
<td>Area 31, Epic Hotels</td>
</tr>
</tbody>
</table>
**Wednesday, May 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>6:30 am</td>
<td><strong>5K Scholarship FUNds Run</strong></td>
<td>Riverwalk (behind hotel)</td>
</tr>
<tr>
<td>7:30 am - 5:00 pm</td>
<td><strong>Registration Desk Open</strong></td>
<td>Riverfront Hall Lobby</td>
</tr>
<tr>
<td>7:30 am - 8:30 am</td>
<td><strong>Continental Breakfast</strong></td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>8:30 am - 10:00 am</td>
<td><strong>Concurrent Technical Sessions Track 3</strong></td>
<td>Various</td>
</tr>
<tr>
<td>10:00 am - 10:30 am</td>
<td><strong>Break</strong></td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>10:30 am - 12:30 pm</td>
<td><strong>Concurrent Technical Sessions Track 4</strong></td>
<td>Various</td>
</tr>
<tr>
<td>12:30 pm - 1:30 pm</td>
<td><strong>The Future through Education Luncheon</strong></td>
<td>Jasmine/Hibiscus</td>
</tr>
<tr>
<td></td>
<td>Moderator—Dean Durkee, USSD President</td>
<td></td>
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<tr>
<td></td>
<td><strong>USSD Gives Back: Presentation of Check to the Manifezt Foundation</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Announcement of 5K FUNds Run Winners</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Announcement of 2018 Scholarships</strong></td>
<td></td>
</tr>
<tr>
<td>12:30 pm - 1:30 pm</td>
<td><strong>Young Professionals Mentoring Luncheon</strong></td>
<td>Japengo</td>
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<tr>
<td></td>
<td><strong>For Registered Young Professionals and Invited Mentors only</strong></td>
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</tr>
<tr>
<td>1:30 pm - 3:00 pm</td>
<td><strong>Concurrent Technical Sessions Track 5</strong></td>
<td>Various</td>
</tr>
<tr>
<td>3:00 pm - 3:30 pm</td>
<td><strong>Break</strong></td>
<td>Riverfront Hall</td>
</tr>
<tr>
<td>3:30 pm - 5:30 pm</td>
<td><strong>Concurrent Technical Sessions Track 6</strong></td>
<td>Various</td>
</tr>
<tr>
<td>5:30 pm - 10:30 pm</td>
<td><strong>Miami Marlins Baseball Game and Private Party</strong></td>
<td>Marlins Park</td>
</tr>
<tr>
<td></td>
<td>**Participants will be transported to and from Marlins Park by motorcoach; transportation</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>begins at 5:30 pm and will end immediately following the game.</strong></td>
<td></td>
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<tr>
<td></td>
<td><strong>Outstanding Paper Awards will be announced during the event, prior to the game.</strong></td>
<td></td>
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</table>

**Thursday, May 3**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 am - 5:00 pm</td>
<td><strong>Registration Desk Open</strong></td>
<td>Riverfront Hall Lobby</td>
</tr>
<tr>
<td>8:30 am - 11:45 am</td>
<td><strong>Concurrent Workshops</strong></td>
<td></td>
</tr>
<tr>
<td>8:00 am - 12 noon</td>
<td>1. Everglades Restoration</td>
<td>Orchid B</td>
</tr>
<tr>
<td>8:00 am - 4:00 pm</td>
<td>2. Words Hold Water – Raising the Communication Bar in the Dams and Levees Industry</td>
<td>Flagler</td>
</tr>
<tr>
<td>8:00 am - 5:40 pm</td>
<td>3. Evaluation of Numerical Models and Input Parameters in the Analysis of Concrete Dams</td>
<td>Tuttle</td>
</tr>
<tr>
<td>8:30 am - 5:30 pm</td>
<td>4. Construction of Cutoff Walls for Levees and Small Embankment Dams</td>
<td>Monroe</td>
</tr>
<tr>
<td>8:00 am - 5:30 pm</td>
<td>5. Cutting-Edge Rapid Flood Modeling: Hands-On with DSS-WISE™ Lite</td>
<td>Orchid CD</td>
</tr>
<tr>
<td></td>
<td>6. Third Workshop on Case Histories in Dam Safety Risk-Informed Decision Making</td>
<td>Brickell</td>
</tr>
<tr>
<td>11:30 am - 1:00 pm</td>
<td><strong>Buffet Lunch for Workshop and Field Tour Participants</strong></td>
<td>Riverfront South/Central</td>
</tr>
<tr>
<td>12:30 pm - 5:30 pm</td>
<td><strong>Field Tour: Tamiami Trail</strong></td>
<td>Hotel Lobby Entrance</td>
</tr>
</tbody>
</table>

**Friday, May 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 am - 6:00 pm</td>
<td><strong>Field Tour: Herbert Hoover Dike</strong></td>
<td>Hotel Lobby Entrance</td>
</tr>
</tbody>
</table>

Note: For both the Thursday afternoon and the Friday field tour, one motorcoach will return via Miami International Airport to drop off passengers with late flights. Please stop by the USSD registration desk to advise if you wish to be dropped at the airport.
1A: Conference Theme - Sustainability
Room: Monroe
Moderators: Nicholas Morgan and Kelly Schoeffe, Kleinschmidt Associates

- Benefits of Using Existing Dams for Flood Mitigation in the Moodna Creek Watershed, Orange County, NY
  - Allen Estivalet, Gregory Shafer and Michelle Boven, WSP

- Ecosystem Considerations in Dam Safety Inspection and O&M
  - Jonathan Keeling and Benjamin Webster, Stantec

- The Many Lives of the Hillsborough River Dam, Tampa, FL
  - Stewart Vaughan, Gannett Fleming; Tom Burke, Southwest Florida Water Management District

1B: Earthquakes - Concrete I
Room: Tuttle
Moderators: Eric Kennedy, FERC; and Mohammadreza Mostafa, Stantec

- New Insights into Seismic Design and Safety Evaluation of Dam Appurtenant Structures and Equipment
  - Najib Bouaanani, Polytechnique Montreal

- Analysis of Performance Based Testing of Lower Baker Dam
  - Guninderbir Sooch and Dan Curtis, Hatch; Ziyad Duran, Harvey Mudd College; Michael Ukavec, Puget Sound Energy; and Larry Nuss, Nuss Engineering, LLC

1C: Oroville Dam Spillway Incident
Room: Flagler
Moderators: Jessie Drayton and John France, AECOM

- Erosion Protection for the Emergency Spillway at Oroville Dam
  - Franz-Werner Gerressen, BAUER Maschinen GmbH; and Brett K. Manier, Drill Tech Drilling & Shoring, Inc.

1D: Tailings Dams and CCR
Room: Miami Lecture Hall
Moderators: Carmen Bernardo Sanchez, Stantec; and Robert Snow, D’Appolonia Engineering

- Conclusions from Evaluation of Tailings Dam Incidents
  - Clint Strachan and Brenna Van, Stantec

1E: Embankment Dams I
Room: Brickell
Moderators: Carlos Cepeda, USACE; and Joseph Kulo, Arcadis

- Selecting a Geomembrane System for a Lined Embankment Dam and Reservoir Project
  - Chad Hoover, Paul Schweiger, Trent Dreese and Cari Beeneenga, Gannett Fleming, Inc.; and Anthony Nokovich, American Water Company

- Raw Water Storage Impoundment on Critical Path for Savannah Harbor Expansion Project
  - Stephen Whiteside, CDM Smith; and Robert Snow, D’Appolonia Engineering

1F: Scholarship Finalists
Room: Orchid BCD
Moderator: Tina Stanard, Freese and Nichols, Inc.

- Relative Humidity Inhibitive Coatings for the Reduction of Degradation Caused by Active Alkali-Aggregate Reactions in Dams
  - Jonathan Blanchard, University of Arkansas

- Investigation of Backwards Erosion by Data Driven Modeling
  - Carolyne Bocovich, Colorado School of Mines

- Numerical Analysis of Embankment and Berm Settlement Based on InSAR Remote Sensing Measurements
  - El Hachemi Bouali, Michigan Technological University

- Satellite-Based Radar Remote Sensing for Monitoring of Dams
  - Sean Salazar, University of Arkansas

**Short presentations** will be highly focused presentations of 8-10 minutes.

**Long presentations** will vary in length from 15 to 30 minutes, depending on the number of presentations in the track.

Tuesday, May 1 • 1:30 pm to 3:00 pm
CONCURRENT SESSIONS TRACK 1
2A: Reservoir Sediment Management

Moderators: Dan Pridal, USACE, and Martin Teal, WEST Consultants, Inc.

Review of the Reservoir Sedimentation Information (RSI) Database and Inventory of Known Sediment Issues at USACE Reservoirs

Moderators: Paul Boyd, Bryan Baker and Andrew Verity, Terracon

2B: Earthquakes - Concrete II

Room: Tuttle

Moderators: Vik Iso-Ahola, Stantec

Predicting Dam Response to Seismic Loading Conditions Using Performance Based Testing

Ziyad Duron and Maggie Gelhar, Harvey Mudd College

A Systems-Based Characterization of Foundation Interaction Effects in Concrete Dams

Ziyad Duron and Kristin Lie, Harvey Mudd College

Earthquake Analysis of Concrete Dams, including Dam-Water-Foundation Interaction

Arnkjell Lokie, Norwegian University of Science and Technology; and Anil Chopra, University of California, Berkeley

Considerations Regarding Analysis Parameters for Two-Dimensional Nonlinear Seismic Response Analysis of a Concrete Gravity Dam

Osman Penner, Jeff Yathon, Brent Bergman, Soheil Razavi-Darbar and David Queen, BC Hydro

Nonlinear Seismic Analysis of an Arch Dam

Gurinderbir Sooch and Dan Curtis, Hatch; and Toby Brewer, Tacoma Power

Effect of Deconvention Process on the Seismic Response of Concrete Gravity Dams

Masoud Khazaei Pou and Aspasia Zervel, Drexel University

2C: Construction - River Diversions

Room: Flagler

Moderators: Jeff Hill, Hayward Baker, and Andrew Verity, Terracon

Addressing Site Specific Challenges by Staged Construction of the Red Rock Hydroelectric Project

Rachael Bisset, Thomas Andrews and Nathaniel Grossmann, Stantec

Cellular Cofferdams as Permanent Hydropower Dam Structures

Marte Gutierrez Co and Simon Heru Prassetyo, Colorado School of Mines

Not Giving Up Hope – Third Time’s the Charm with Hope Mills Dam

Corey Schaal, Mark Lands and Aaron Collins, Schnabel Engineering

The Life and Death of TED (The Temporary Embankment Dam at the New Folsom Dam Auxiliary Spillway)

Jeffrey Wisniewski and Jeffrey Allen, HDR

Design and Construction of the New Folsom Dam Spillway Approach Channel

Erik Newman, AECOM and Michael Forrest, AECOM; Michael O’Sullivan, COWI; Kylan Kegel, USACE; and Jeffrey Wisniewski, HDR Inc.

Ensuring Dam Safety without a Spillway during Construction at Anderson Dam

Brian Gettinger, Black & Veatch; Chuck Anderson, Schaff & Wheeler; Jack Xu and Victor Gutierrez, Santa Clara Valley Water District; and Emily Schwartz, Black & Veatch

2D: Foundations

Room: Miami Lecture Hall

Moderators: Philippe Bourdeau, Purdue University; and Nate Bolles, Black & Veatch

Mosul Dam: An Epoch in the Making

David Paul, USACE; Juan Vargas and Nagesh Malayala, AECOM; and Natik Ahmed Abdullah, Iraq Ministry of Water Resources

Mosul Dam Grouting: Listening to the Telltale Signs of the Ground

David Paul and Matt Shesker, USACE; and Juan Vargas and Nagesh Malayala, AECOM

Final Results of 3D Geologic Modeling at Boundary Dam: from Abutment Stability to Rock Block Stabilization

Robert Cannon, Fred Snider, Gary Rogers and J. Hawkins Gagnon, Schnabel Engineering; Kimberly Pate and Andre Ball, Seattle City Light

A Comparison of Barrier Wall Types and Methods for Controlling Seepage through Embankment Dams and Levees

Joseph Kula, Arcadis; Gianfranco Di Cicco, GDConsulting, LLC; and Timothy Newton, Arcadis

Large Slope and Foundation Stability Problems of Three Dams

Camilo Marulanda, INGETEC

Challenges and Learnings in Execution of Spillway Flip-Bucket - A Case Study of Koldam HEP

Vinod Kumar Mourya and Prashant Narayan Gaur, NTPC Limited

Comparison of Measuring Effective Grouting Pressures

Dmitri Ivanov and Michael Xu, Advanced Construction Techniques

2E: Dam Safety I

Room: Brickell

Moderators: Najib Bouaouan, Polytechnique Montreal; and Emily Schwartz, Black & Veatch

Using Semi-Quantitative Risk Assessment to Allow Safe Storage in a Reservoir

Jessie Drayton, AECOM; Warren Wade, Fort Carson Directorate of Public Works; Andrew Barry, USACE; and Don Pouler, AECOM

Remote Sensing Inventory of Previously Undocumented Dams

Dan Schmutz, Danny Goodding and Valeria Hrabal, Greenman-Pedersen, Inc; and Art Sengupta, Florida Department of Environmental Protection

Evaluating Leakage Through the Rock-Filled Juranah Dam

Kirk Lowery, Arcadis U.S., Inc.

Risk Informed Design of Large Concrete (RCC) Dams in High Seismic Hazard Region

Keith Ferguson, Keith Moen, Dan Osmun, Farzad Abedzadeh and Scott Anderson, HDR Engineering, Inc.

Application of Methodologies for Evaluating Internal Erosion of Embankment Dams

Clinton Carlson, Glenn Rix, Lucas deMelo and Wesley MacDonald, Geosyntec Consultants; and S. Celeb, Douglas, TVA

Balancing Risk and Resource Values at Grama Dam & Comanche Dam


South Bay Seismic Retrofit: Project Updates

Megan Puncke and Patrick Allen, Black & Veatch; and Victor Gutierrez and Bal Ganjo, Santa Clara Valley Water District

2F: Levees I

Room: Orchid BCD

Moderators: Danielle Neamtu, CDM Smith; and John Rice, Utah State University

Characterizing the Reliability of Earthen Levees using System Response Curves Derived from Uncertainty Analysis of Geotechnical Simulation Models

Martin Schultz, Fred Tracy, Ghado Elthiry, Danny Harrelson, Jodi Ryder and Maureen Corcoran, USACE

Critical Pool Level for Drawdown Analysis of Earth Embankment Dams

Krishna Shadakopan and Joseph Kula, Arcadis

Reliability Underseepage Assessment of Levees Incorporating Geomorphic Features

Lourdes Polanco Boulware and John Rice, Utah State University

Parametric Study of Levee Saturation for Undrained Rapid Drawdown Analysis

Kalie Poston, Prince Turckson and Daniel Vandenberg, Tennessee Tech University

Transient SEEP2D for Finite Element Seepage Modeling of Levees with Enhanced Features

Fred Tracy, LucasWalsh and Maureen Corcoran, USACE
Wednesday, May 2 • 10:30 am to 12:30 pm
CONCURRENT SESSIONS TRACK 4

4A: Earthquakes - Embankments II
Room: Monroe
Moderators: Jennifer Donahue, JLD Engineering; and Larry Nuss, Nuss Engineering

4B: H&H – Dam Break and Reservoir Modeling
Room: Tuttle
Moderators: Greg Paxson, Schnabel Engineering; and Jennifer Gagnon, HDR

4C: Construction - Rehabilitation I
Room: Flagler
Moderators: Jesse Kropelinski, WSP; and Vinod Batta, SNC Lavalin

4D: Conference Theme - Water Quality and Supply
Room: Miami Lecture Hall
Moderators: John Osterle, RIZZO Associates; and Zach Whiten, Stantec

4E: Dam Safety III
Room: Brickell
Moderators: Elizabeth Landowski, Gannett Fleming; and Rachael Bianetti, Stantec

4F: Levees II
Room: Orchid BCD
Moderators: Steve Whiteside, CDM Smith and Meredith Beswick, Kleinfelder

Dynamic Deformation Analysis for the Candelaria Rockfill
Donahue, JLD Engineering; and Jennifer Donahue, JD Donahue Engineering

Seismic Risk Screening of Embankment Dams
Moderators: Jennifer Gagnon, HDR; and Henry Hu, WEST Consultants; and Jennifer Donahue, JD Donahue Engineering, Inc.

Soil Strength Measurement over a Range of Strains for Embankment Dam Deformation Modeling
Robert Kinehart and Blake Armstrong, Bureau of Reclamation

Fragility Curves for Hardfill Dams under Seismic Loading
Juan Mayoral and Adriana Badillo, UNAM

Case Studies of Rapid Dam Breach Modeling during Flood Events
Wesley Crosby, USACE

Influence of Breach Parameter Uncertainty on Dam-Breach Flood Modeling and Mapping with DSS-WISE™ Lite
Mustafa Altmakar, Marcus McGrath and Vijay Ramalingam, NCHE, The University of Mississippi; and James Damby, FEMA

Probabilistic Dam Breach Modeling Using HEC-RAS and McBreach: Corps Water Management System Implementation and Applications
District of USACE
Christopher Goodell, Suzanne Monk and Aaron Lee, WEST Consultants; and Roger Rasmussen and Armit Karki, PacificCorp; and Doug Johnson, FERC

Rapid Response Flood Inundation Modeling of a Compromised Coastal Levee System during Hurricane Season
Alex Nelson, Alex Ubben, and Corby Lewis, USACE

When a 2-Dimensional Dam Breach Model Leads to Floodplain Revisions, Risk Informed Urban Re-Development, and Green Infrastructure Improvements
Kevin Ruswick and Gregory Daviero, Schnabel Engineering; and William Simcoe, City of Albany

Corps Water Management System Implementation and Applications in Mobile District of USACE
Bailey Crane, USACE; and Henry Hu, WEST Consultants, Inc.

Challenging “About-Face” for Courtright Dam
Scott Huntsman, Black & Veatch Corporation

Embarkment Piping Repair
Seth Krause, Mike McCaffrey, Paul Shiers and Olga Zabawa WSP

Rehabilitation of Kebir Dam, the World’s Oldest Masonry Dam under Operation
Hossein Mashedian, Black & Veatch; and Habib Lelababi, Kamandab Consultant Engineering Co.

How to Evaluate Prestressed Legacy Anchors in Dams
Donald Brace, Geosysystems, L.P.; John Wolfhope, Freese and Nichols, Inc.; and Chris Hayes, CEATI International

Balancing Costs and Benefits: Value Engineering of Native American Dams Throughout the United States
Matthew Young and William Shuter, U.S. Bureau of Indian Affairs; and Allison Knaak, MBS, LLC

Using Soil-Cement to Construct an Overtopping Gravity Dam
Petre Nix and Steven Riedy, Tetra Tech

Tidal Tributary Restoration by Modification of Salinity Control Structures
Scott Deitche, GPA; Ed Sherwood, Tampa Bay Estuary Program; and Nancy Norton and Lizanne Garcia, Southwest Florida Water Management District

A View from the Trenches – Lessons Learned Planning and Permitting New Water Storage Projects
Blaine Dwyer, HDR

Boundary Dam TDG (Total Dissolved Gas) Analysis Using CFD Model (FLOW-3D)
John Wendelso, Flow Science, Inc.; and Nikou Jalayeri and Joe Groeneveld, Hatch

Environmental Recovery from Siltation and Dam Failures along St. Vrain Creek, Colorado
Richard Tacher and Clint Brown, Engineering Analytics; and Jesse Rounds, Boulder County Parks and Open Space

Getting out of the Rough: Designing and Constructing Above Ground Impoundments to Suit Florida’s Water Quality and Supply Needs
Richard LeBlanc, HDR

Proactive Thinking in Dam Safety
Matthew Balven and Dean Durkee, Gannett Fleming

Nepal Dam Safety Inspections and Insights:
James Rutherford, Richard Donnelly and Peter Rodrigue, Hatch; and Bill Moler and Charly Cadou, Manatoba Hydro International; Rajeshwar Man Sulyja, TMS; and Pravin Karki, World Bank Group

The Use of Probabilistic Techniques to Supplement Deterministic Dam and Levee Design Methodologies
Scott Burch and Jason Valeria, Gannett Fleming, Inc.

Integrating Dam Safety Risk into a Traditional Dam Design Project
Derek Morley, USACE

The Big F-N Plotting Style: Right for Every Organization?
Dam Galic, Bureau of Reclamation

Moving Towards Risk Informed Design Standards for Dams and Levees
Eric Halpin and Nate Snorteland, USACE

Backward Erosion Piping Flume Tests for Magnolia Levee
Axel M. Montalvo-Bartolomei, Erica A. Medley, Benjamin R. Borden and Bryan A. Robbins, USACE

Comparing Erosion Measurements from JET Method to those from Experimental Levee Break Tests of Cohesive Soils
Ali Asghari Tabrizi, Schnabel Engineering; and M. Hanif Chaudhry, University of South Carolina

Evaluating Unpermitted Encroachments in Levee Systems
Kevin Severson, Conforth Consultants, Inc.; Colin Rowan, Multnomah County Drainage District; and Michael Meyer, Conforth Consultants, Inc.

Design and Construction Challenges for Offstream Reservoir Earthen Embankment Seepage Systems
Randall Bushey, Jacobs

Cost Effective Geotechnical Engineering Design through Independent Review
Ray Martin, Ray E. Martin LLC, George Sills, Geotechnical Engineering Consultant; David Williams, David T. Williams and Associates; and Eric Nagy, Larsen Wurzel & Associates, Inc.
**Wednesday, May 2 • 1:30 pm to 3:00 pm**

**CONCURRENT SESSIONS TRACK 5**

**5A: Earthquakes - Embankments III**
**Room: Monroe**
Moderators: Zohra Amini, Geosyntec Consultants; and Karen Ford, GEI Consultants

**5B: H&H – Spillway Modeling**
**Room: Tuttle**
Moderators: Blake Tullis, Utah Water Research Laboratory; and Brandon Vavrek, Seattle City Light

**5C: Construction - Rehabilitation II**
**Room: Flagler**
Moderators: Scott Korab, Ballard Marine; and Del Shannon, Barnard Construction

**5D: Environment: Habitat and Species**
**Room: Miami Lecture Hall**
Moderators: Denise Bunte-Bisnet, Santée Cooper; and Blaine Dwyer, HDR

**5E: Concrete**
**Room: Brickell**
Moderators: Jerzy Salamon and Hillery Venturini, Bureau of Reclamation

**5F: Floods**
**Room: Orchid BCD**
Moderators: Elena Sossenkina, HDR; and Maureen Corcoran, USACE

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**Dynamic Behavior of CFEDs Subjected to Strong Seismic Excitation and a Case Study**
Hasan Tosun, Eskisehir Osmangazi University and Dam Safety Association, Turkey

**Site Characterization and Seismic Stability Analysis of Stone Canyon Dam**
Ethan Dawson, Nesa Nesrallah, Dennis Nguyen, Wolfgang Roth and Christopher Goetz, AECOM; and Jianping Hu

**Seismic Evaluation of Electric Lake Dam Using Two-Dimensional and Three-Dimensional Methods**
Masood Kafash, Tiffany Adams, Jennifer Williams, and Ethan Dawson, AECOM; and Roger Roeburn, PacifiCorp

**Why CFD Modelling Should Be a Spillway Designer’s Best Friend**
Benjamin Israel Devadason and Paul Schweiger, Gannett Fleming, Inc.

**Applications of CFD at Hydraulic Structures in Select Levees in South Florida**
Matahel Ansar and Je Zeng, South Florida Water Management District

**Developing Hydraulic Design Criteria for a Fusegate Semi-Labyrinth Weir Using 2D and CFD Models at Duke Energy’s-Cedar Cliff Hydroelectric Development**
Adrian Strain and Joel Bilodeau, HDR; and John Eddy and Brad Keaton, Duke Energy

**Physical Modeling of Air Demand at Cedar Cliff Dam**
Dan Gessler, Andy Johanson and Chris Miller, Alden Research Laboratory, Inc; John Eddy and Brad Keaton, Duke Energy; and Hassan Kocahan, Hydropius

**CFD Modeling of Piano Key Weirs: Validation and Numerical Parameter Space Analysis**
John Wendelbo and Brian Fox, Flow Science

**Size-Scale Effects and Piano Key Weir Hydraulics**
Blake Tullis, Utah State University; and Nathan Young, Schnabel Engineering

**An Update on La Romaine Complex, the Most Important Hydroelectric Project Under Construction in North America**
Vlad Liviu Alicescu, Hydro Quebec

**C.W. Bill Young Regional Reservoir Rehabilitation Project**
Joanna Srofford and Elizabeth Landowski, Gannett Fleming, Inc.

**Design and Construction of the Oakdale Spillway Capacity Expansion**
Manoshree Sundaram and Jason Hedien, Stantec; and Justin Darling, NIPSCO (Northern Indiana Public Service Company)

**Swan Lake Dam Raise**
Randy Presleigh, McMillen Jacobs Associates

**Discussion on the Application of Advanced Finite Element Technology to Dam Engineering**
Mohammadreza Mostafa and Vik Iza-Ahola, Stantec

**Uncertainty Quantification in Probabilistic Assessment of Concrete Dams: Cloud Analysis**
Mohammad Amin Hanni-Ardebili and Victor Soouma, University of Colorado Boulder

**Research Needs for Concrete Dams**
Robert Hall, Engineering Innovations, LLC; Larry Nuss, Nuss Engineering, LLC; and Ziyad Duron, Harvey Mudd College

**Concrete Tensile Strength Derived from Direct and Splitting Tests from Existing Dams**
Dan Curtis and Gurinderbir Sooch, Hatch; and Husein Hasan and Justin Long, Tennessee Valley Authority

**Concrete Lift Line Shear Strength Parameters Compared to Other Laboratory Determined Properties**
Evan Lindemuth, Bureau of Reclamation

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**Long Presentations (15-30 minutes)**

**Short Presentations (8-10 minutes)**
Wednesday, May 2 • 3:30 pm to 5:30 pm
CONCURRENT SESSIONS TRACK 6

6A: Public Safety
Room: Monroe
Moderators: William Foss, Gannett Fleming; and Paul Meeks, Worthington Products, Inc.
1. PUBLIC SAFETY AROUND DAMS
Panel Discussion:
Statistics of Public Safety Incidents at U.S. Dams in 2017
Paul Schweiger, Gannett Fleming; and Anthony Bennett, Ontario Power
3D Modelling of Waterway Barriers – Increasing Public Safety and Material Collection, Bypass, and Removal
Greg Saunders, Revelstoke Engineering
Public Safety American Style – A Case Study of Louden Water
Timothy Johnston, Gannett Fleming; and Alton Echols, Bill Kappel, Geoff Muhlestein and Doug Sleptzoff, FEMA; Mark Demby and Nicholas Preston Wilson, James Design Services Limited

2. EMERGENCY PREPAREDNESS
Panel Discussion:
Balancing Dam Safety Risk Communication
Edward Stowasser, USACE
Emergency Response & Recovery
Sharon Roach, Tacoma Power and James Demby, FEMA
Emergency Planning for Dams/Technical Assistance
Preston Wilson, James Demby and Nicholas Sleptzoff, FEMA; Mark Slauer, VA Department of Emergency Management; and Adam Jochimowicz, Argonne National Laboratory

3. EMERGENCY RESPONSE LESSONS LEARNED
Panel Discussion:
Practicing for a Hurricane - A Gate Operations Simulation at Lake Brandt Dam
Laura Shennim-Fenster and Gerald Robblee, Schnabel Engineering; and Steven Drew, City of Greensboro

6B: H&H – Big Floods and Spillways
Room: Tuttle
Moderators: James Lindell, Stantec; and Yulia Zakrevskaya, SNC Lavalin
Storm Transposition Methodology
Advancements used in the Bear River Hydroelectric Project
Alyssa Hendricks Dietrich, Jason Caldwell, Victoria Sankovich Bahls and Tye Parzybok, MetStat, Inc.; and Roger Roeburn and Amit Karli, PacifiCorp
Determining PMP for Florida – You Can’t Rely on HMR 51
Bill Koppel, Geoff Muhlestein and Doug Huitstrand, Applied Weather Associates
Exceedance Probability of the Probable Maximum Flood - Implications for Dam Safety Decisions
David Margo, USACE
Phased Approach to Modeling for Bluestone Dam Spillway Modification
Dana Moses and Nicholas Koutsunis, USACE
Physical Model of Spillway and Reservoir Debris Interaction
Kent Walker, Jaron Hasenbalg, Shannon Monahan and Nate Sprague, Bureau of Reclamation
Flood Debris Considerations at Dams
Frederick Lux III and Mott Wood, Stantec

3. EMERGENCY RESPONSE LESSONS LEARNED
Panel Discussion:
Assessing of 2015 South Carolina Dam Failures Related to Offshore Hurricane Joaquin by the GEER Team
Hermann Fritz, Georgia Institute of Technology
Orroville Spillway Incident: A Unified Response
Randy Fessler, California DWR

6C: Decommissioning
Room: Flager
Moderators: Jennifer Bounry, Bureau of Reclamation; and Kevin Schneider, Barnard Construction
Subcommittee on Sedimentation Dam Removal Analysis Guidelines for Sediment
Jennifer Bounry and Timothy Randle, Bureau of Reclamation
Large Dam Removals for Renewal of the Klamath River
Tom Hepler, Schnabel Engineering; Seth Gentzler and John Roodler, AECOM; Ben Swann, CDM Smith; Scott Wright, River Design Group; and Mark Branson, Klamath River Renewal Corporation
Balancing Risk, Cost, and Ecosystem Restoration in Dam Removal
Tyler Kreider, Kleinschmidt Associates
Epic Efforts to Restore a Unique Place on the Rocky River
Robert Indri and Aaron Collins, Schnabel Engineering; Angela Allen, Wildlands Engineering; and Chris Flowers, Unique Places, LLC
Understanding Sediment in Dam Removal
Brinton Swift, HDR Engineering

6D: Asphalt Core Dams/Chimney Hollow
Room: Miami Lecture Hall
Moderators: Georgette Hiepas, USACE; and Sam Abbasszadeh, Stantec
Rockfill Dams: Comparison of CFRDs and ACRDs Alternatives – Design, Construction, Monitoring
Huberto Marengo and Manoel Freitas, Desalto Ejecutivo SA de CV
Chimney Hollow Reservoir – A Permitting Success Story
Jeff Drager, Northern Water
Windy Gap Reservoir Dam Modifications for Improved Aquatic Health
Jeff Drager, Northern Water
Chimney Hollow Design Review Process
Jeremy Franz, State of Colorado; and Joseph Donnelly, Northern Water
Selection of a High Hydraulic Asphalt Concrete Core Dam for the Chimney Hollow Project
Brian Francis and Donald Montgomery, Stantec; and Joe Donnelly, Northern Water
Designing a High Hydraulic Asphalt Core Rockfill Dam for Colorado
Donald Montgomery and Brian Francis, Stantec

6E: Monitoring
Room: Brickell
Moderators: Shaun Dustin, Geocomp; and Kim deRoebers, Consultant
Picking Up Both Ends of the Stick: How New Applications of Old Technology Increase Economic, Social, and Environmental Sustainability
Shaun Dustin, Geocomp
Satellite InSAR as an Initial Health Assessment Tool for Dams and Reservoirs
El Nachemi Bouali, Thomas Oommen and Rüdiger Eschbar-Wich, Michigan Technological University; and Sajinkumar KS, University of Kerala

6F: Levees III
Room: Orchid BCD
Moderators: Scott Raschke, Schnabel Engineering; and Darren Mack, SAGE Engineers
Learning from the Past: Historic Dam & Levee Failures and Near-Failures in Florida
Scott Burch, Gannett Fleming, Inc.
Risk Analysis Methodologies for Evaluating Urbanized Canals
Chris Ellis, Bureau of Reclamation
Risk Analysis of Vegetation on Levees
Lawrence Roth, Arcadis
Shallow Water Lidar System for Overtopping Breach Measurements
Ghada Ellithy, USACE
Risk Assessment of I-Walls on Levees
Michael Sharp, Noah Vroman and Brad Arcement, USACE

Long Presentations (15-30 minutes)

Short Presentations (8-10 minutes)