



Annual Meeting and Conference

April 3-7, 2017
Anaheim, California

Monday, April 3

7:00 am - 5:30 pm	Registration Desk Open	Marriott Hotel
7:00 am - 8:45 am	Committee Chair/Vice Chair Breakfast with the Board	Marriott Hotel
9:00 am - 4:30 pm	Committee Meetings	Marriott Hotel
5:00 pm - 6:00 pm	Opening Session: Celebrating the Best of USSD <i>Introduction of the 2017 Lifetime Achievement Award Recipient</i> <i>Nine Years, Kim DeRubertis, Consultant, 2016 USSD Lifetime Achievement Award Recipient</i>	ACC Room 204
6:00 pm - 8:00 pm	Kickoff Reception	Exhibit Hall, ACC

Tuesday, April 4

7:00 am - 5:00 pm	Registration Desk Open	ACC 3rd Floor Foyer
7:00 am - 8:00 am	Continental Breakfast	Exhibit Hall, ACC 3rd Floor
8:00 am - 10:00 am	Plenary Session: It's a Small World — Celebrating our National Relationships <i>Welcome and Introductions, John Wolfhope, USSD President, Freese and Nichols, Inc.</i> <i>The Development of California's Water System and Water Management in California, David Gutierrez, GEI Consultants, Inc.; and Leslie Harder, HDR</i> <i>Post-Liquefaction Strength for Dams, Raymond B. Seed, University of California at Berkeley (Invited)</i> <i>Leadership Perspectives from a Young Professional, Nicolas von Gersdoff, Southern California Edison</i>	ACC Room 204
9:30 am - 10:00 am	Refresh Break	Exhibit Hall, ACC
10:30 - 12 noon	Plenary Session: It's a Small World — Celebrating our International Relationships <i>International Milestone High Concrete Dam Project Award Michael F. Rogers, MWH, now a part of Stantec, and ICOLD Vice President</i> <i>Columbia River Treaty Changes in 2024, Peter Dickerson, U.S. Army Corps of Engineers (USACE)</i> <i>Large-Scale Hydropower Development in Mexico: The Dams of the Santiago River, Humberto Marengo Mogollón, Mexico, ICOLD National Committees of the Americas</i> <i>Korea's Advanced Approach to Integrated Dam Safety Management, Dong-Hoon Shin, K-Water</i>	ACC Room 204
12 noon - 1:15 pm	Lunch — Awards and Recognitions	ACC Ballroom A, 3rd Floor

Tuesday, April 4

1:30 pm - 5:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track A Session 1A: Conference Theme	Track B Session 1B: Physical Modeling	Track C Session 1C: Risk
*Young Professional		
<p>Moderators: David Gutierrez, GEI Consultants, Inc.; and John Osterle, RIZZO Associates</p> <p><i>Reservoir Sedimentation and Sustainability</i>, Timothy Randle, Sean Kimbrel and Kent L. Collins, Bureau of Reclamation</p> <p><i>Dam Safety and Resilient Water Management: A Case for Dynamic Reservoir Operations</i>, Michael McMahon, HDR</p> <p><i>The Nebraska Department of Natural Resources Coordinated Efforts in Flood Flows</i>, Kristen Obermueller*, Bob Beduhn and John Engel, HDR</p>	<p>Moderators: James Lindell, MWH, now part of Stantec; and Chandra Pathak, USACE</p> <p><i>Linear Weir Size Scale Effects: A look at Flat Top Weirs</i>, Blake Tullis, Utah State University; and Kedric Curtis*, Jones and Demille Engineering</p> <p><i>Physical Model of Spillway and Reservoir Debris Interaction</i>, Kent Walker, Jaron Hasenbalg and Kelly Brom, Bureau of Reclamation</p> <p><i>Boundary Dam Spillway No. 1 TDG Modifications</i>, John Werner* and James Rutherford, Hatch; Andrew Bearlin, Seattle City Light; Peter Friz and Jeff Johnson, Hatch; Daniel Kirschbaum, Joe Groeneveld, Seattle City Light; and Justin Arnold, Alden Hydraulic Laboratories</p>	<p>Moderators: Dean Durkee, Gannett Fleming, Inc.; and Cheri Wilson, Eugene Water & Electric Board</p> <p><i>Approaches to Estimating Individual Risk for Dam Safety Tolerable Risk Evaluation</i>, David S. Bowles, RAC Engineers and Economists, LLC; and Jason Needham, USACE</p> <p><i>Minimizing Bias in Geologic and Geotechnical Aspects of Risk Evaluation for Dams and Levees</i>, Kerry D. Cato, California State University; and Derek S. Morley, USACE</p> <p><i>The Common Cause Adjustment in Dam Safety Risk Analysis: Scope, Purpose, and Applicability</i>, Dom Galic, Bureau of Reclamation</p>
3:00 pm - 3:30 pm	Refresh Break	Exhibit Hall, ACC
Session 2A: Environment	Session 2B: Hydrologic Modeling	Session 2C: Risk
<p><i>Environmental Considerations in Dam Decommissioning</i>, Kelly Schaeffer, Kleinschmidt Associates</p> <p><i>Hydraulic Dredging of the Strontia Springs Reservoir — Lessons Learned</i>, Douglas Raitt and Brett Cochran, Denver Water</p> <p><i>Dam Decommissioning — Unique Approach by Conversion to a Levee</i>, Zachary Whitten*, Stantec</p> <p><i>Climate Services for Dam Management and Safety</i>, Yulia Zakrevskaya, SNC-Lavalin Inc; and David Huard, Ouranos, Inc.</p>	<p><i>A Comprehensive Approach to Probabilistic Hydrologic Hazard Assessment and its Use to Support Risk-Informed Decisions</i>, Shaun Carney, Riverside Technology, Inc.; Keil Neff, Tennessee Valley Authority; and Mel Schaefer and Bruce Baker, MGS Engineering</p> <p><i>Meteorological Data Visualization and Analysis Using HEC-MetVue</i>, Fauwaz Hanbali, USACE</p> <p><i>Big Dam in a Small World: Reassessment of the Spillway Design Flood of Lake Sakakewea</i>, Joshua Melliger*, USACE</p> <p><i>Application of Regional Hydrologic Criteria in the Rocky Mountains to Estimation of the PMF in Alberta</i>, John Menninger*III, Seifu Guangul, Dan Hoffman and George Sabol, Stantec; and Syed Abbas, Alberta Transportation</p>	<p><i>Failure Mode Analysis – Insights and Lessons Learned for the Foundation of a Successful Dam Safety Management Program</i>, Frank L. Blackett and Douglas D. Boyer, Federal Energy Regulatory Commission</p> <p><i>Epistemic vs Natural Uncertainty in Dam Safety Decision Making: Is it Fair Play?</i>, Ignacio Escuder-Bueno, Universitat Politècnica de València; and Adrián Morales-Torres* and Jessica Castillo-Rodríguez*, iPresas Risk Analysis</p> <p><i>Consequence Estimation for a Large System oDams: Our Experiences from TVA Projects</i>, Michael M. Crouch and Anurag Srivastava, Riverside Technology, Inc; and Morgan D. Ruark, Tennessee Valley Authority</p> <p><i>Application of Risk Assessment to an Emergency Levee Design in an Urban Environment</i>, Petros Armenis* and Malcolm Barker, GHD Pty Ltd ; and Peter Christensen and Graham Harrington, Christchurch City Council</p>
5:30 pm - 7:30 p.m.	<i>Poster Session and Reception (see following pages for poster presentations)</i>	Exhibit Hall, ACC
7:30 pm - 10:00 p.m.	<i>Celebrating our Young Professionals</i>	Grand Plaza (outside)

Tuesday, April 4

1:30 pm - 5:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track D Session 1D: Construction I	Track E Session 1E: Risk Informed H&H	Track F Session 1F: Embankment Dams I
*Young Professional		
<p>Moderators: Del A. Shannon, ASI Constructors; and Andrew Verity, Terracon Consultants</p> <p><i>Vibration Free Resonant Sheet Pile Driving in Dykes and Levees</i>, Dane Reelie and Matthew Janes, Resonance Technology International Inc.</p> <p><i>Construction of Borinquen Dam 1E for the Panama Canal Expansion</i>, Lelio Mejia, Geosyntec; James Toose, AECOM; and Jorge Fernandez, Panama Canal Authority</p> <p><i>Tsaile Dam — A Complete Approach Unearths a Safer Dam</i>, Stephen Brown, Kleinfelder</p>	<p>Moderators: Randall R. Graham, Water Resources Engineer; and Korey Kadrmans, RJH Consultants, Inc.</p> <p><i>Estimating the Reservoir Stage-Frequency Curve with Uncertainty Bounds for Cherry Creek Dam Using the Monte Carlo Reservoir Analysis Model (MCRAM)</i>, Haden Smith* and John F. England, Jr., USACE</p> <p><i>Using Paleoflood Analyses in USACE Risk-Informed Decision Making and Dam Safety Evaluations</i>, Keith I. Kelson, Christina M. Leonard*, Brian M. Hall*, and John F. England, Jr., USACE</p> <p><i>Risk Informed Freeboard Evaluation</i>, Gregory S. Karlovits* and David A. Margo, USACE</p>	<p>Moderators: Stuart Harris, Tennessee Valley Authority; and Georgette Hlepas, USACE</p> <p><i>A State Perspective on Tailings Dam Regulation and a Role for USSD and ASDSO</i>, Charles Cobb, Alaska Department of Natural Resources</p> <p><i>A Centrifuge Study of Co-Mixed Mine Tailings and Waste Rock Deposits</i>, Nonika Antonaki*, WSP Parsons Brinckerhoff; Tarek Abdoun, Rensselaer Polytechnic Institute; and Inthuorn Sasanakul, University of South Carolina</p> <p><i>Freeboard Assessment for Long Embankment Dams</i>, Mike Gerlach, Stantec</p>
3:00 pm - 3:30 pm	Refresh Break	Exhibit Hall, ACC
Session 2D: Construction I	Session 2E: Gates and Valves	Session 2F: Embankment Dams I
<p><i>Replacement of Clear Lake Dam: Overcoming Challenges Constructing an RCC Dam on a Soil Foundation</i>, Steve Jamieson, W. W. Wheeler & Associates, Inc.; Bruce Cotie, Xcel Energy; and Don Lopez and John Treacy, W. W. Wheeler & Associates, Inc.</p> <p><i>Dewatering — How to Address this Potential Achilles Heel for Construction</i>, John W. France and G. Richard Bird, AECOM; Gregg Batchelder Adams, Corps of Engineers; and Jessie Drayton Unterberg*, AECOM</p> <p><i>Unique & Detailed Draft Tube Slab Analysis</i>, Jesse Kropelnicki, Kareem Bynoe and Kevin Finn*, WSP Parsons Brinckerhoff; and David Schreck, Brookfield Renewable Energy Group</p> <p><i>Core from Rock, Challenges of Core Construction for a Large High Hazard Dam</i>, Michael Miller and Efrain Rondinel-Oviedo, MWH, now part of Stantec</p>	<p><i>Fail Safe Design for Gated Structures Construction and Rehabilitation</i>, Peter Davis and Mathew McGuire, HDR</p> <p><i>Dams Inlet/Outlet Works Rehabilitation Program</i>, Jack Husted*, Sterling Klippel and Keith Lilley, Los Angeles County Department of Public Works</p> <p><i>Best Practices in a Tainter Gate Rehabilitation Program</i>, Matt Moses, M. Leslie Body and Grady Hillhouse*, Freese and Nichols, Inc.</p> <p><i>Emergency Shutoff Valves</i>, Kishen Prathivadi, Sewer Authority Mid-Coastside</p>	<p><i>Offstream Reservoir Earthen Dam Seepage Systems — Design and Construction Challenges</i>, Randall Bushey, CH2M</p> <p><i>Latest Compilation of Internal Erosion Incidents at Bureau Of Reclamation Dams</i>, William O. Engemoen, Bureau of Reclamation</p> <p><i>Modeling of Internal Erosion Within Foundation of Earthen Embankment Dam</i>, Al Preston, Geosyntec Consultants; Keil Neff, Bureau of Reclamation; and Chunling Li and Lucas de Melo, Geosyntec Consultants</p> <p><i>Turbid Discharge Incident at Cannonsville Dam</i>, John H. Vickers; NYC Environmental Protection; and William H. Hover, GZA GeoEnvironmental, Inc.</p>
5:30 pm - 7:30 p.m.	<i>Poster Session and Reception (see following pages for poster presentations)</i>	Exhibit Hall, ACC
7:30 pm - 10:00 p.m.	<i>Celebrating our Young Professionals</i>	Grand Plaza (outside)

Tuesday, April 4

5:30 pm - 7:30 pm

Poster Session

*Young Professional

Concrete

Freezing and Thawing Durability of Laboratory and In-Situ Roller-Compacted Concrete Test Specimens, **Timothy Dolen**, Dolen and Associates; and **Veronica Madera**, Bureau of Reclamation

Parametric Design of Double-Curvature Arch Dams Using DIANA Finite Element Software, **E. Goulas***, **G. Schreppers** and **M. Partovi**, DIANA FEA BV; and **R.M. Gunn**, Swiss Federal Office of Energy

Study of Uplift Pressure Effect in Roller Compacted Concrete Gravity Dam, **Hichem Mazighi*** and **Mustapha Kamel Mihoubi**, National School of Hydraulic Engineering, Algeria; and **Khaled Ghaedi** and **Zainah Ibrahim**, University of Malaya, Iran

Soil-Structure Interaction Dynamic Analysis for an Existing Old Earth-Rock Fill Dam with Concrete Core, **Mahmood Seid-Karbasi**, **Upul Atukorala**, **Herb Hawson** and **Bruce Downing**, Golder Associates Ltd.

RCC Post Construction Core Testing and Data Analysis For San Vicente Dam Raise Project, **James Stiadly**, Kleinfelder; **Andrew Oleksyn**, San Diego County Water Authority; **Michael Rogers** and **Glenn Tarbox**, MWH, now part of Stantec; **Thomas Reynoldson**, Kleinfelder; and **Gerard E. Reed III**, **Wade Griffis** and **Jim Zhou**, San Diego County Water Authority

Construction

Reconstruction of the Matala Spillway: Hydrotechnical and Safety Aspects, **Ahmed Bouayad**, SNC-Lavalin

Decommissioning Outdated Fish Bypass Systems and Preparation for Concrete Retrofit on Lower Granite Lock & Dam, **Dirk deGroot***, Global Diving & Salvage, Inc.

Sand Secant Pile Chimney Filter Installation at Pine Creek Dam, **Bob Faulhaber** and **Michael Arnold**, Bauer Foundations

Partial Reconstruction of Rowallan Dam to Repair a Piping Incident, **Gavan Hunter**, AECOM

Execution of a Cut-Off Wall at the Dead Sea – Unique Conditions Require Unique Solution, **Franz-Werner en**, Bauer Maschinen GmbH; **Gai Lehrer**, Y Lehrer Engineering Ltd.; and **Israel Christian Scholz**, Wayss & Freytag Spezialtiefbau GmbH

Catawba Dam: The Long Road and Construction Update, **Dennis Hogan**, Black & Veatch

Water-Filled Bladders, an Innovative Bearing Interface for Arch Dam Bracing, **Alexandre Lochu**, EDF-CIH

Eductors – The Essential Alternative in Complex Dewatering Applications, **Adam Richards*** and **Harry Bagherzadeh**, Griffin Dewatering

Application of Intelligent Compaction to Embankment Dam Construction, **Robert V. Rinehart**, Bureau of Reclamation

Update No. 3 of the Calaveras Dam Replacement Project, **John Roadifer**, **Michael Forrest** and **Erik Newman**, AECOM; and **Daniel Wade**, **Susan Hou**, **Tedman Lee** and **Carman Ng**, San Francisco Public Utilities Commission

Validated Integrated Compaction Monitoring at TVA's Kif Coal Combustion Product Stacking Facility, **David J. White**, **Pavana Vennapusa** and **Brendan FitzPatrick**, Ingios Geotechnics, Inc.; **Jason F. Hill** and **Nicholas McClung**, TVA; and **Eric Hageman**, HDR

To Air is Human; To Succeed, Divine – Evolutionary Research on Grout Enriched RCC Air Entrainment, **Jeremy Young**, Schnabel Engineering; and **Eric Musselman**, Villanova University

Earthquakes

Seismic Stabilization of TVA's Colbert Ashpond 4 East Dike in Tusculumbia, Alabama, **J.F. Nickerson**, **M. Perez-Canals** and **W.H. Walton**, GEI Consultants, Inc.; and **N.A. McClung** and **R.S. Harris**, Tennessee Valley Authority

Embankment Dams

Stability Analysis of a Concrete-Faced Rockfill Dam Using Parametric Evaluations, **Christopher Conkle**, Geosyntec Consultants

Estimating the Peak Friction Angle of Sandy Soils In Situ with State-Based Overburden Normalized SPT Blow Counts, **Robert A. Jaeger***, GEI Consultants, Inc.; and **Ian P. Maki**, California DWR

Comparison Analysis of the Behavior of Rock-Fill Dams with Clay Core at the Variation of the Water Level in the Reservoir, **Ljupcho Petkovski** and **Stevcho Mitovski**, Sts Cyril and Methodius University

Using Non-Intrusive Geophysical Techniques in Embankment Dam and Levee Risk Assessment, **Justin Rittgers**, **Cassandra Wagner*** and **Bryan K. Simpson**, Bureau of Reclamation

Impact of Glacial Till Deposits – Structural Analysis of Green Mountain Dam, **Hillery Venturini***, Bureau of Reclamation

Tuesday, April 4

5:30 pm - 7:30 pm

Poster Session

*Young Professional

Hydrology and Hydraulics

*Using HEC-RAS 2 Dimensional Capability for Simplified Rapid Dam Break Analysis, Wesley Crosby**, USACE

*CFD Modelling — A Spillway Designer's Best Friend, Benjamin Israel Devadason** and **Paul G. Schweiger**, Gannett Fleming, Inc.

*7 Compelling Scenarios When You Should Be Considering 2D Flow Modeling Over 1D Modeling, Benjamin Israel Devadason** and **Paul G. Schweiger**, Gannett Fleming, Inc.

*Hydraulic Modeling of a Complex Dam and Reservoir Project: A Case Study of Two Rivers Dam, Stephanie Doyal**, USACE

*Rainfall-Runoff Modeling for the Garrison Dam Drainage with HEC-HMS, Jeff Harris, Kevin Denn** and **Melissa Larsen**, WEST Consultants, Inc.

An Innovative Temporary Bulkhead for the Ruskin Dam and Powerhouse Upgrade Project, Jorge Marín, Dragados Canada Inc.; **Saman Vazinkhoo**, British Columbia Hydro; and **Rafael Ibáñez-de-Aldecoa**, Dragados USA Inc.

Risk and Uncertainty Features in HEC-ResSim, George Modini and **Fauwaz Hanbali**, USACE

*Applied Methodology for Mapping of Potentially Flooded Areas for Induced Flow Rates and Flow Rates from Hypothetical Disruption of Lajeado Dam, Pedro Pupim**, Energias de Portugal

Leveraging Multi-Sensor Hydrologic Data for Model Validation, Kevin J. Ruswick and **Gregory J. Daviero**, Schnabel Engineering

Levees

*Design of Levee Modifications to Accommodate Long-Term River Scour, Justin Dominguez** and **James Nickerson**, GEI Consultants, Inc.

Detection of Levee Voids at Aqueduct Crossings Using Geophysical Imaging Techniques, Zhihua Li and **Atta Yiadom**, East Bay Municipal Utility District

*Risk Analysis in a Levee Safety Context: The Upper Wood River Levee Case History, Chris J. Redell** and **Jose R. Lopez**, USACE

*Effects of Compaction on Erodibility Characteristics of Levees Due to Overtopping, Ali Asghari Tabrizi**, Schnabel Engineering; and **M. Hanif Chaudhry** and **Jasim Imran**, University of South Carolina

Monitoring

Preventing Catastrophic Failure of Underwater Infrastructure: Condition Assessments by ROV, Bill Sherwood and **Bob Clarke**, ASI Group - ASI Marine

Automated Data Acquisition System Basics for Dam Safety Instrumentation Monitoring, Peter Zimmerman, Paul Booth and **Greg Dutson**, Canary Systems, Inc.

Risk

*Failure of the Acude Da Nacao Earth Dam: A Probabilistic Perspective, Danielli de Melo Moura**, Purdue University; **Rodrigo Borela***, Georgia Tech; **Gabriela Alvarado***, Purdue University; **Wilson Espinoza***, Georgia Tech; and **Philippe L. Bourdeau**, Purdue University

Seismic Deformation Analysis of Blue Ridge Dam, Glenn J. Rix and **Lucas de Melo**, Geosyntec Consultants, Inc.; and **Christopher L. Saucier** and **Michael A. Morrison**, Tennessee Valley Authority

Wednesday, April 5

8:30 am - 12:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track A Session 3A: Monitoring	Track B Session 3B: Hydraulic Modeling	Track C Session 3C: Earthquakes I
*Young Professional		
<p>Moderators: Christopher Hill, Consulting Engineer; and Shaun Dustin, GeoComp</p> <p><i>Operation and Maintenance of an Instrumentation Program</i>, Amanda Sutter*, USACE</p> <p><i>FERC Best Practices for Dam Safety Performance Monitoring</i>, Will Brown, Eric Kennedy*, Justin Nettle, Emeruwa Anyanwu, Eric Gross, Jim McHenry and David Olson, Federal Energy Regulatory Commission</p> <p><i>Calculation of Threshold Limits for Dam Safety Instrumentation</i>, Jack Husted*, Travis Wyld* and Sterling Klippel*, Los Angeles County Department of Public Works</p> <p><i>Somerset Dam – Innovative Remote Monitoring for Time-Sensitive Breach Detection</i>, Jerry Cross and Yogi Sookhu, Gotham Analytics; and Jud Donaghy, TransCanada</p>	<p>Moderators: Greg Paxson, Schnabel Engineering, Inc.; and Martin Teal, WEST Consultants, Inc.</p> <p><i>Modeling Dam Breaches And Flood Inundation Using Hec-Ras 5.0'S New 2D Capabilities</i>, D.L. Silvertooth, USACE; and M. Meshkat, Amec Foster Wheeler Environment & Infrastructure, Inc.</p> <p><i>Estimating The Inflow Design Flood For Whittier Narrows Dam Using A 2D Hydrodynamic Modeling Approach</i>, Brian M. Hall*, Haden Smith* and Reuben Sasaki*, USACE</p> <p><i>When an Adjacent Watershed Inundates Your Offline Reservoir: Ukumehame Reservoir Dam Removal Challenges and Design</i>, Andrew J. Lynch*, Stewart S. Vaghti and Dean B. Durkee, Gannett Fleming, Inc.</p> <p><i>Atoka Dam And Spillway Modifications</i>, Patrick Miles*, Brad Kirksey* and John Rutledge, Freese and Nichols, Inc., and Sam Samandi, John L. Hare and Andrew Mishler*, Oklahoma City Water Utilities Trust</p>	<p>Moderators: Sam Abbaszadeh, MWH, now part of Stantec; and Robert Cannon, Schnabel Engineering</p> <p><i>Use of the Generalized Conditional Intensity Measure Approach for Estimation of Seismic Loads for Dams</i>, Richard J. Armstrong, California State University, Sacramento</p> <p><i>A Direct Finite Element Method for Nonlinear Analysis of Semi-Unbounded Dam-Water-Foundation Rock Systems</i>, Anil K. Chopra and Arnkjell Lokke, University of California</p> <p><i>Numerical Assessment of Hydrodynamic Loads Induced During Seismic Interaction Between Reservoir and Concrete Dam</i>, Jerzy Salamon, Bureau of Reclamation; and Jonna Manie, DIANA FEA BV</p> <p><i>Seismic Back Analysis of Monticello Arch Dam – Blind Prediction Workshop and Additional Analyses</i>, Emmanuel Robbe*, EDF Hydro Engineering Center</p>
10:30 am - 11:00 am	Refresh Break	Exhibit Hall, ACC
Session 4A: Monitoring	Session 4B: Site Specific PMP Panel Discussion	Session 4C: Earthquakes I
<p><i>Geospatial Tools for Routine Dam Safety Monitoring and Response Applications During Emergencies</i>, Yogesh Prashar, Atta B. Yiadom, Elizabeth Bialek and Rachel Wong, East Bay Municipal Utility District</p> <p><i>Special Considerations when Installing Automated Instrumentation at a Site with Access Limitations</i>, William Walker*, USACE</p> <p><i>Instrumentation and Information Management at Boone Dam</i>, Rozh Ameen, Tennessee Valley Authority; and Raphael Siebenmann*, and Jamey Rosen, Geosyntec Consultants</p>	<p><i>Recent Extreme Storms and Their Relation to PMP</i>, Bill Kappel, Doug Hultstrand and Geoff Muhlestein, Applied Weather Associates</p> <p><i>Needs to Update Probable Maximum Precipitation for Determining Hydrologic Loading on Dams</i>, Chandra Pathak, USACE</p> <p><i>Site Specific Probable Maximum Precipitation Development</i>, Jeff Harris, WEST Consultants, Inc.; and Ben Rohrbach, USACE</p> <p><i>Advances in Watershed Modeling Inputs and Methods for Dam Safety Risk Analyses</i>, Jason Caldwell, Nicole Novembre, Katie Laro and Tye Parzybok, MetStat, Inc.; Bruce Barker and Mel Schaefer, MGS Engineering Consultants, Inc.; and George Taylor and Wayne Gibson, Applied Climate Services</p>	<p><i>Seismic Evaluation of Lookout Point Embankment Dam in Oregon – Cascadia Subduction Zone Implications</i>, Andrew D. Kost* and Kenji Yamasaki, Cornforth Consultants, Inc.; and David H. Scofield, USACE</p> <p><i>Performance of Fena Dam During the 1993 Guam Earthquake</i>, Lelio H. Mejia, Geosyntec</p> <p><i>Seismic Evaluation Of The Remediated Isabella Auxiliary Dam</i>, George Hu*, David C. Serafini and Henri V. Mulder, USACE; and Vlad Perlea, Retired</p>
12:30 - 1:30 p.m.	Lunch — Name that Dam slideshow	ACC Ballroom F, 3rd Floor

Wednesday, April 5

8:30 am - 12:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track D Session 3D: Construction II	Track E Session 3E: Concrete I	Track F Session 3F: Embankment Dams II
*Young Professional		
<p>Moderators: Stephen Whiteside, CDM Smith; and Scott Korab, Ballard Marine Construction</p> <p><i>Seismic Remediation of Perris Dam Using CDSM</i>, Wen Yan (Grace) Chen, Michael Driller and Steven Friesen, California Department of Water Resources</p> <p><i>Controlled Blasting for the Red Rock Hydroelectric Project</i>, Rachael V. Bisnett*, MWH, now part of Stantec; James Valentyn, Ames Construction; and Nicholas Johnson, Hoover Construction Co.</p> <p><i>Upriver Dam Spillway Rehabilitation</i>, Ray Trudgeon*, James H. Rutherford, Steve Burns, Val Kovalishyn, Ccee Chan* and Nikou Jalayeri*, Hatch</p> <p><i>Lakeside Ranch Stormwater Treatment Area – Lessons Learned During Design and Construction</i>, Danielle Neamtu*, Stephen Whiteside and Stephen Blair, CDM Smith</p>	<p>Moderators: George Kelley, Freese and Nichols, Inc.; and Guy Lund, Gannett Fleming, Inc.</p> <p><i>Investigating the Structural Safety of Cracked Concrete Dams</i>, Glenn S. Tarbox, MWH, now part of Stantec; Robin Charlwood, Robin Charlwood & Associates, PLLC; and Chris Hayes, CEATI International</p> <p><i>A New Approach for the Design of the Koroğlu RCC Arch/Gravity Dam</i>, Quentin Shaw, ARQ Consulting Engineers</p> <p><i>Upgrade and Spillway Modifications at Santa Anita Dam</i>, Sterling E. Klippel, Los Angeles County Department of Public Works; Vik Iso-Ahola, Glenn S. Tarbox and Martina Gelo, MWH, now part of Stantec; and George Manole, LACDPW</p> <p><i>Understanding the Performance of Aging Infrastructure: A 99-Year Old Multiple Arch Dam</i>, Vik Iso-Ahola, Glenn S. Tarbox, Mohammadreza Mostafa, Sean Ellenson*, Munit Bector and Ali Rasekh, MWH, now part of Stantec</p>	<p>Moderators: Robert Eichinger, Stantec; and Bob Bowers, O'Brien & Gere</p> <p><i>Considerations for Establishing Seepage Thresholds in Concrete-Faced-Rockfill-Dams</i>, Erik J. Malvick, California Department of Water Resources</p> <p><i>Geomembranes to Waterproof Embankment Dams</i>, John Wilkes, Alberto Scuero and Gabriella Vaschetti, Carpi</p> <p><i>Geotechnical Investigation of South Carolina Flood-Damaged Dams after the 2015 October Rainfall Event</i>, Inthuorn Sasanakul, Sarah L. Gassman, Charles E. Pierce, William Ovalle*, Ryan Starcher*, Emad Gheibi*, and Mostaqur Rahman* University of South Carolina</p> <p><i>Rough River Dam Phase 1B Exploratory Drilling and Grouting Program</i>, Conrad Ginther*, Black & Veatch; Dmitri Ivanov*, Advanced Construction Techniques; and Rolando Benitez, RIZZO Associates</p>
10:30 am - 11:00 am	Refresh Break	Exhibit Hall, ACC
Session 4D: Construction II	Session 4E: Concrete I	Session 4F: Embankment Dams II
<p><i>Design and Repair of a Power Intake Gate Sealing Surface Under Challenging Constraints</i>, Mike Carney and Don Thompson, Tetra Tech, Inc.; Roland Lwiindi, North South Power Company; and Eli Lundberg and Joshua Phillips, Tetra Tech, Inc.</p> <p><i>Post-Tensioning in an Underwater Environment: Wanapum Dam – Monolith 4 Spillway Repair</i>, Paul Krumm, Nicholson Construction</p> <p><i>Balancing Water Resources and Power Generation for the Metlakatla Indian Community</i>, Jesse Hutton and Scott Korab, Ballard Marine Construction</p>	<p><i>A Performance-Based Evaluation of Post-Tensioned Anchors Embedded Within a Concrete Gravity Dam</i>, Tae Ha Park*, Samantha Hoang*, Jonathan Lum*; and Ziyad Duron, Harvey Mudd College</p> <p><i>On the Use of Discrete Lumped Element Modeling for Insight into Concrete Dam Behavior</i>, Jonathan Lum*, Samantha Hoang*, Tae Ha Park* and Ziyad Duron, Harvey Mudd College; and Guy Lund, Gannett Fleming, Inc.</p> <p><i>Shear Strength of Concrete Lift Joints from Extensive Lab Testing Compared to Theoretical Results</i>, Dan D. Curtis, HATCH Ltd., Husein Hasan, Tennessee Valley Authority; and Gurinderbir S. Sooch*, HATCH Ltd.</p>	<p><i>Integrating a Multidisciplinary Field Investigation to Improve Assessment of Internal Erosion</i>, Cassandra M. Wagner*, Justin B. Rittgers and Bryan K. Simpson, Bureau of Reclamation</p> <p><i>Laboratory Investigation of Backward Erosion Piping Into Constricted Seepage Exits</i>, John Rice and Ibrahim A. Ibrahim*, Utah State University</p> <p><i>A Laboratory Examination of Filter Erosion Boundaries in an Embankment Dam</i>, R.J. Fannin, University of British Columbia; and M. Li and C. Anderlini, British Columbia Hydro</p>
12:30 - 1:30 p.m.	Lunch — Name that Dam slideshow	ACC Ballroom F, 3rd Floor

Wednesday, April 5

1:30 pm - 5:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track A Session 5A: Monitoring	Track B Session 5B: Reservoir Sedimentation	Track C Session 5C: Earthquakes II
*Young Professional		
<p>Moderators: Emily Schwartz, Black & Veatch; and Amanda Sutter, USACE</p> <p><i>Monitoring San Vicente Dam Raise During Initial Fill</i>, Andrew Oleksyn, San Diego County Water Authority; Nathan Grima, City of San Diego Water Department; Anna Kolakowski, California Department of Water Resources; Larry Rodriguez, City of San Diego Water Department; and Jim Zhou, San Diego County Water Authority</p> <p><i>First Filling Instrumentation Monitoring of the Folsom Dam Auxiliary Spillway Control Structure</i>, Kenneth R. Pattermann and George Hu, USACE</p> <p><i>Effect Of Antecedent Groundwater Level On Piezometric Response During Flood Events</i>, Chun-Yi Kuo, Richard B. Hockett and Troy S. O'Neal, USACE</p>	<p>Moderators: Timothy Randle, Bureau of Reclamation; and Sean Smith, USACE</p> <p><i>Numerical Sediment Transport Modeling of Operations at Paonia Reservoir, Colorado</i>, Sean Kimbrel*, Bureau of Reclamation</p> <p><i>Impact of Climate Change on the Sediment Accumulation in the reservoir of Embankment Dams: Case Study, Baldhill Dam, North Dakota</i>, Bahareh Shoghli* and Yeo Howe Lim, University of North Dakota</p> <p><i>Sediment Transport Through Lake Clarke and Lake Aldred</i>, Jonathan M. G. Viducich* and Martin J. Teal, WEST Consultants, Inc.</p>	<p>Moderators: Mahmoudreza Mivehchi, BMP Engineering & Inspection Inc.; and Kenwarjit Dosanjh, HDR</p> <p><i>Seismic Deformation Analysis of Blue Ridge Dam</i>, Glenn J. Rix and Lucas de Melo, Geosytec Consultants, Inc.; and Christopher L. Saucier and Michael A. Morrison, TVA</p> <p><i>A Case History Evaluation of State of Practice for Seismic Deformation Modeling of Earthen Dams</i>, Khaled Chowdhury, University of California, Berkeley; Vlad Perlea, AECOM; Raymond B. Seed, University of California, Berkeley, Michael Beaty, Beaty Engineering, LLC; Fenggang Ma, AMEC Foster Wheeler Environment and Infrastructure, Inc.; Ethan Dawson, AECOM; and George Hu, USACE</p> <p><i>Comparison of Two Constitutive Models for Simulating the Effects of Liquefaction on Embankment Dams</i>, Jack Montgomery*, Auburn University; and Sam Abbaszadeh*, MWH, now part of Stantec</p>
3:00 pm - 3:30 pm	Refresh Break	Exhibit Hall, ACC
Session 6A: Monitoring	Session 6B: Reservoir Operations	Session 6C: Earthquakes II
<p><i>Leak Detection In Earth Dams and Levees Using Optical Fiber Distributed Temperature Sensors</i>, Maxime Tatin* and Vincent Lamour, Cementys; Stéphane Bonelli, Irstea; and Aurélie Garandet, Compagnie Nationale du Rhône</p> <p><i>Elephant Butte Dam UAV Data Collection and Photogrammetry</i>, Matthew Klein, Bureau of Reclamation</p> <p><i>Proposed Guidelines for Conducting a Performance-Based Evaluation of a Concrete Dam</i>, Samantha Hoang*, Tae Ha Park*, Jonathan Lum* and Ziyad Duron, Harvey Mudd College; and Guy S. Lund, Gannett Fleming, Inc.</p> <p><i>Reality Capture for Dam and Hydroelectric Facilities</i>, Adam Serock, HDR</p>	<p><i>To Release or Not to Release? Dam Operation Modeling Using Gridded Short-Term Forecast Rainfall</i>, Maged Aboelata, AECOM</p> <p><i>Blackstone River and Thames River Watershed CWMS Deployments</i>, Ben Zoeller, Amec Foster Wheeler</p> <p><i>Systems-Based Risk Analysis of Lake Mendocino Forecast-Informed Reservoir Operations with HEC-WAT</i>, Matthew McPherson and Leila Ostadrahimi, USACE</p> <p><i>HEC-ResSim 3.3 — New Features to Support Complex Studies</i>, Joan Klipsch, USACE</p>	<p><i>Non-Linear Time Domain Analysis of Ruskin Dam in LS-DYNA Including Reservoir-Foundation-Structure Interaction</i>, O. Penner*, B. Bergman*, S. Razavi-Darbar and D. Queen, BC Hydro; P. Léger and Martin Leclerc, École Polytechnique Montréal; and Yannick Boivin, Tetra Tech</p> <p><i>Boca Dam Spillway Nonlinear Analysis and Validation Study</i>, Jennifer E. Huggins, Roman Koltuniuk and Miguel Rocha, Bureau of Reclamation</p> <p><i>Nonlinear Seismic Evaluation of Perris Dam Outlet Tower</i>, Yusof Ghanaat and Zachary Harper, Quest Structures, Inc.</p> <p><i>Nonlinear Seismic Analysis of an Arch Subjected to Very Intensive Earthquake Loading</i>, Gurinderbir S. Sooch* and Dan D. Curtis, HATCH Ltd.</p>
7:00 pm - 9:30 pm	Reception and Closing Banquet	Marriott Hotel

Wednesday, April 5

1:30 pm - 5:30 pm	Concurrent Technical Sessions	3rd Floor ACC
Track D Session 5D: Levees	Track E Session 5E: Concrete II	Track F Session 5F: Safety & Security
*Young Professional		
<p>Moderators: Elena Sossenkina, HDR; and Darren Mack, Sage Engineers, Inc.</p> <p><i>U.S. Levee Safety Coalition and International Community of Practice, Recent Activities and Updates</i>, Elena Sossenkina, HDR; and Michael Sharp and Noah Vroman, USACE</p> <p><i>USACE Levee Portfolio Report</i>, Noah Vroman, USACE</p> <p><i>Levee Safety Guidance Comprehensive Document Review</i>, Michael Sharp, USACE</p> <p><i>Inventory and Review of the Nation's Levees</i>, Jamie McVicker and Cathi Sanders, USACE</p> <p><i>Levee Safety Practices In The Keystone State</i>, Andrew J. Orlovsky, Pennsylvania Department of Environmental Protection</p>	<p>Moderators: Vik Iso-Ahola, MWH, now part of Stantec; and Olga Zabawa, WSP Parsons Brinckerhoff</p> <p><i>Simplified Nonlinear Seismic Analyses of Gravity Dams</i>, Elisa Messio*, Wenbo Duan* and Najib Bouaanani, Polytechnique Montréal; and Benjamin Miquel*, Hydro-Québec</p> <p><i>Strontia Springs Dam: Methods To Better Understand Seismic Behavior</i>, Aimee L. Corn* and Guy S. Lund, Gannett Fleming, Inc.; and Darren J. Brinker and Erin Gleason, Denver Water</p> <p><i>Cracking In Thin Arch Concrete Dam – LS-DYNA Nonlinear Dynamic Structural Analysis</i>, Sherry Hamedian and Roman Koltuniuk, Bureau of Reclamation</p>	<p>Moderators: William Foos, Gannett Fleming, Inc.; and Paul Meeks, Worthington Products, Inc.</p> <p><i>Managing Threats Through Effective Security Programs</i>, J. A. Gloschat* and A. C. Baehr, HDR</p> <p><i>Unmanned Aerial Vehicles – A Public Agency Approach to Deployment and Protection</i>, Katharine Killeen and John Rizzardo, California Department of Water Resources</p> <p><i>The Economics of Dam Security Post 9/11 and the Threat to Consumer Confidence</i>, Alexander B. Shannon, CH2M</p>
3:00 pm - 3:30 pm	Refresh Break	Exhibit Hall, ACC
Session 6D: Levees	Session 6E: Concrete II	Session 6F: Safety & Security
<p><i>Seismic Vulnerability Analysis of Slag Cement-Cement-Bentonite Seepage Cutoff Walls for Levees</i>, Vlad Perlea, AECOM; Khaled Chowdhury, USACE; Mary Perlea, AECOM; and Michael Kynett, USACE</p> <p><i>Advances in Design Procedures for Relief Well Lines in Variable Urban Settings</i>, Robert A. Jaeger*, Richard A. Keizer, Jr.* and Graham C. Bradner, GEI Consultants, Inc.; and Joseph Weber and Mark Stanley, HDR</p> <p><i>Explaining Pore Pressure Changes Due to Piping Through Changes in Hydraulic Conductivity</i>, Carolyne Bocovich*, Colorado School of Mines; Willem Kanning, Deltares; and Minal Parekh and Michael Mooney, Colorado School of Mines</p> <p><i>Design and Construction of Feather River West Levee Improvements</i>, Christopher Krivanec and Les Harder, HDR; and Michael Bessette, Sutter Butte Flood Control Agency</p>	<p><i>Comparison of Nonlinear Finite Element Analysis Methods Used to Simulate Post-Tensioned Anchorage in Concrete</i>, Vojislav Cvijanovic*, Mark Schultz and Blake Dolve, California Department of Water Resources</p> <p><i>Structural Inflection Points, and How They Enhance the Understanding of Structural Safety</i>, Guy Lund, Gannett Fleming, Inc., Kevin Marshall, Grant County Public Utility District; and Todd Barber, Southern Company</p> <p><i>Pseudo-Nonlinear Finite Element Analysis of Concrete Gravity Dams</i>, J. Taylor Perkins, Stantec; Husein A. Hasan, Tennessee Valley Authority; and Daniel A. Gilbert, Stantec</p> <p><i>Importance of RCC Mixture Lab Studies for the Design of Large Dams</i>, A. Garduno, M. Montero and F. Ballhausen, Comision Federal de Electricidad</p>	<p><i>Flood Risks from Spillways: Modeling and Communicating Non-Dam-Failure Impacts to Native American Tribes</i>, Rinda Tisdale, Matthew Young and Chris Clopper*, Bureau of Indian Affairs</p> <p><i>City of Dubuque, Iowa: Defining Emergency Actions with a Levee Breach Evaluation</i>, Andrew McCoy, HDR; Deron Muehring, City of Dubuque; and Rusty Jones, HDR</p> <p><i>Public Safety and Unauthorized Extreme Activities at Dams</i>, Steven Barfuss, Utah State University; Brian M. Crookston, Schnabel Engineering; and Kade Beck* and Ryan Weller*, Utah State University</p> <p><i>Public Safety and Social Media</i>, Sharon Nicole Roach*, Federal Energy Regulatory Commission</p>
7:00 pm - 9:30 pm	Reception and Closing Banquet	Marriott Hotel

Thursday, April 6

7:30 am - 5:00 pm	Workshop Registration Desk Open	Marriott Hotel
8:00 am - 12 noon	Four Concurrent Workshops: 1. CDA's Public Safety Program Development for Dams 2. Seismic Analysis of Concrete Dams 3. Levees and Dry Dams 4. Answering the Most Important Question of 2017 - What Is an Environmentally Sustainable Water Project - How Do We Communicate?	Marriott Hotel
12 noon - 1:00 pm	Buffet Lunch	Marriott Hotel
1:00 pm - 5:00 pm	Field Tour	Orange County Groundwater Recharge Program
1:00 pm - 5:00 pm	Four Concurrent Workshops (continued)	Marriott Hotel

Friday, April 7

8:00 am - 12 noon	CDA's Public Safety Program Development for Dams (continued)	Anaheim Convention Center
8:00 am - 5:00 pm	Seismic Analysis of Concrete Dams (continued)	Anaheim Convention Center
8:00 am - 5:00 pm	Field Tour	Perris Dam and Diamond Valley Dam