



Registration Packet



Dam Safety

BALTIMORE, MD

September 18-22, 2022

The Annual Conference of the
Association of
State Dam Safety Officials

Register at DamSafety.Org

TRANSFORMING THE FUTURE OF DAM SAFETY

Engineering Design
Risk Analysis
Hydraulics & Hydrology
Public Safety & Emergency Management
Construction Services



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Welcome



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CONFERENCE PLANNING COMMITTEE

- John Ritchey, P.E.**, French & Parrello Associates, P.A. (Chair)
- Kallie Bauer, P.E.**, CO Division of Water Resources
- Eric J. Ditchey, P.E.**, McCormick Taylor, Inc.
- John W. France, P.E.**, JWF Consulting LLC
- Nathaniel Gee, P.E.**, Tennessee Valley Authority
- Matthew Lindon, P.E.**, Loughlin Water Associates
- Lee Mauney, P.E.**, HDR
- Gregory S. Paxson, P.E.**, Schnabel Engineering
- John Roche, P.E.**, MD Dam Safety Permits Division
- Charles Thompson, P.E.**, NM Dam Safety Bureau (President)

JOIN US IN BALTIMORE

ASDSO is excited to welcome you to the annual Dam Safety Conference in Baltimore, MD this September.

Dam Safety 2022 is an in-person conference but will continue to have an On-Demand component. During registration, attendees will be able to select if they are joining us in Baltimore (with full access to all On-Demand content following the conference) or if they will be accessing the content On-Demand only. All conference sessions, including both general and all 38 concurrent sessions, as well as the lightning talks, will be recorded and available On-Demand to registered attendees. All On-Demand content will be available on October 10, 2022 and remain open until April 10, 2023. This blended format will provide attendees with the best of both conference options - the ability to network face-to-face, and the ability to watch every presentation available at the conference over a six-month period.

We look forward to seeing you in Baltimore!

Connect With ASDSO

Phone: 859.550.2788

Email: info@damsafety.org

Online: www.DamSafety.org

Registration Information



CONFERENCE REGISTRATION

Full Conference (In-Person or On-Demand)

When registering, you will be able to select the best option for you - attending in-person in Baltimore including On-Demand access or On-Demand only (On-Demand is not a virtual live option, it is access to recorded presentations post-conference).

- ▶ Member - \$940 until August 27 / \$1040 starting August 27
- ▶ Non-member - \$1,095 until August 27 / \$1,195 starting August 27
- ▶ Honorary Member - \$125
- ▶ Student Member - \$0

Group (In-Person or On-Demand)

Bring 15 or more people and save! Group registration can combine both Dam Safety 2022 live registrations and Dam Safety On-Demand registrations. Download the group registration form (please complete both sheets) or contact ASDSO if you have questions. *Group registration closes on August 26

- ▶ Member Rate - \$800
- ▶ Non-Member Rate - \$955

Single Day (Live registration only)

- ▶ Member Single Day - \$525 until August 27 / \$575 starting August 27
- ▶ Non-Member Single Day - \$680 until August 27 / \$730 starting August 27

Limited Access Registrations: (Live registration only)

- ▶ Exhibit Show Staff - \$300 until August 27 / \$350 starting August 27
- ▶ Guest - \$125

Dam Safety On-Demand

Access to Dam Safety On-Demand will open on October 10, 2022 and remain open until April 10, 2023 and will include access to the recordings from all general and concurrent sessions that take place at Dam Safety 2022 as well as the lightning talks.

Extra Activities:

- ▶ Conference Kick-off Event - National Aquarium \$95
- ▶ Field Trips
 1. C&O Dam No. 5 \$95 (Full-day)
 2. Potomac Dam \$95 (Full-day)
- ▶ Workshops
 1. Two-Phase Flow Tailings Dam Breach Modeling Workshop \$200 (Half-day)
 2. Write-Right Workshop \$300 (Full-day)
 3. The Development of Dam Safety Technology and Governance Systems in Response to Major Dam Safety Incidents and Failures \$300 (Full-day)

ASDSO Upcoming Conferences Save The Date!

**Northeast Regional
Conference**
May 22-25, 2023
Portland, ME

**Dam Safety 2023
National Conference**
September 17-21
Palm Springs, CA

**Dam Safety 2024
National Conference**
September 22-26
Denver, CO

IT'S ABOUT Dam Time



No matter the reason, our team of experts can not only help you decide what to do with your dam, but implement your decision. From repairs to decommissioning to removal – we've got you covered.

Hotel Information



ASDSO has secured special rates for Dam Safety 2022 attendees at the Hyatt Regency Baltimore and the Baltimore Marriott Inner Harbor at Camden Yards. Both hotels are within walking distance of the Baltimore Convention Center and downtown Baltimore attractions. Plus, the Hyatt Regency Baltimore provides a walkway directly to the ASDSO conference space within the Baltimore Convention Center. Hotel room blocks are now open and will be open until **August 26, 2022**. All hotel rates listed below are good until August 26 or until all rooms have been reserved, whichever comes first. Reserve your room now to secure the best rates!

Hotel Details:

Hyatt Regency Baltimore – \$205 per night, plus tax for single or double occupancy. [Reserve your room online now!](https://www.hyatt.com/en-US/group-booking/BWIRB/G-DAMS) (<https://www.hyatt.com/en-US/group-booking/BWIRB/G-DAMS>)

Baltimore Marriott Inner Harbor at Camden Yards - \$175 per night, plus tax for single or double occupancy. [Reserve your room online now!](https://book.passkey.com/event/50268711/owner/289/home) (<https://book.passkey.com/event/50268711/owner/289/home>)

Please note - ASDSO does not work with any third-party hotel sites and does not share attendee information with anyone for hotel reservation purposes. If you receive an email or phone call from someone other than an ASDSO staff member, it is not through the conference.

Note to Attendees on Attrition:

ASDSO is financially liable for all contracted rooms, whether they are all sold or not. This is why we respectfully ask attendees to take advantage of the discounted rate and book rooms within the meeting block if possible. Further, rooms that are booked within the block and then canceled after the cutoff date cannot be re-booked by ASDSO attendees. In order to reduce the amount of attrition fees charged to ASDSO, please only book the room nights that you expect to occupy during the conference. We work diligently to give you the best overall experience at the conference and ask for your continued support.

Housing Scam Alert:

There are companies who try to scam conference attendees with fraudulent hotel bookings. If you are contacted by a company claiming to be the official housing service for the conference, please do not do business with them. These companies are not affiliated with ASDSO. ASDSO does not have an official travel agent; nor does it utilize a guestroom housing service. The only way to reserve a hotel room at the ASDSO group rate is for YOU to initiate contact with one of the listed hotels directly by phone or online.

All conference activities will take place at the Baltimore Convention Center unless otherwise noted.

Things to Do in Baltimore

- Attend a Baltimore Orioles game. The O's are in town Monday - Thursday.
- Tour the Inner Harbor
- Visit the Maryland Science Center or the B&O Railroad Museum
- Visit Fort McHenry or the Edgar Allen Poe House and Museum

Visit the Baltimore CVB at <https://baltimore.org/convention-blog/dam-safety-2022/> for more great ideas

Schedule At A Glance



SUNDAY, SEPTEMBER 18		
MORNING	AFTERNOON	EVENING
Risk Workshop for State Programs	Regional Caucus Meetings Annual Meeting of State Representatives	Conference Kick-off Event at the National Aquarium
MONDAY, SEPTEMBER 19		
MORNING	AFTERNOON	EVENING
Opening General Session – 50 th Anniversary of the Buffalo Creek Dam Failure Concurrent Sessions: 1 – Decade Dam Failures Series Part I 2 – Understanding Seepage 3 – What’s New in Roller Compacted Concrete 4 – High-Tech Hydrology	Exhibit Hall Opens Lightning Talks in the Exhibit Hall Concurrent Sessions: 5 – Warning and Consequences 6 – Improving Inspections 7 – Potpourri Grab N Go 8 – It’s Maryland, Hon	Reception in the Exhibit Hall
TUESDAY, SEPTEMBER 20		
MORNING	AFTERNOON	EVENING
General Session – Dam Safety 3.0 – Are We Facing a Paradigm Shift? Concurrent Session I: 9 – Explaining Environmental Justice 10 – ASDSO Resources Making an Impact 11 – Focus on Seismic Issues 12 – Small But Dangerous. A Programmatic View of Low Head Dams 13 – Spillway Hydraulics	Concurrent Session I: 14 – Decade Dam Failures Series Part II 15 – Dam Removal Part I 16 – State Perspectives on Portfolio Risk Analysis 17 – Innovations In Monitoring Methods 18 – Modifying Low Head Dams Concurrent Session II: 19 – Spotlight on State Programs 20 – Dam Removal Part II 21 – Rehabilitation Methods and Materials 22 – Developing Your Risk Toolbox 23 – Advancements In Inundation Mapping	Reception in the Exhibit Hall
WEDNESDAY, SEPTEMBER 21		
MORNING	AFTERNOON	EVENING
Concurrent Session I 24 – Levee Management 25 – Geo Tech Case Studies 26 – Assessing Spillway Conditions 27 – Rainfall: High and Low Frequencies Concurrent Session II 28 – Updates On The National Levee Safety Program 29 – Near Miss 30 – Advanced Geo Tech 31 – CFD In Practice	Concurrent Session I 32 – The Best Of The Rest 33 – Federal Funding and Communications Initiatives 34 – Challenges With Cutoff Wall Construction 35 – Advancements In Inundation Mapping, Part II Concurrent Session II 36 – Decade Dam Failures Series Part III 37 – Managing Rules And Regulations For Real Results 38 – Top Tips And Tools In Construction Management	
THURSDAY, SEPTEMBER 22		
Field Trips Workshop I: Two-Phase Flow Tailings Dam Breach Modeling Workshop II: Write Right Workshop III: The Development of Dam Safety Technology and Governance Systems in Response to Major Dam Safety Failures		

Kick-off Event

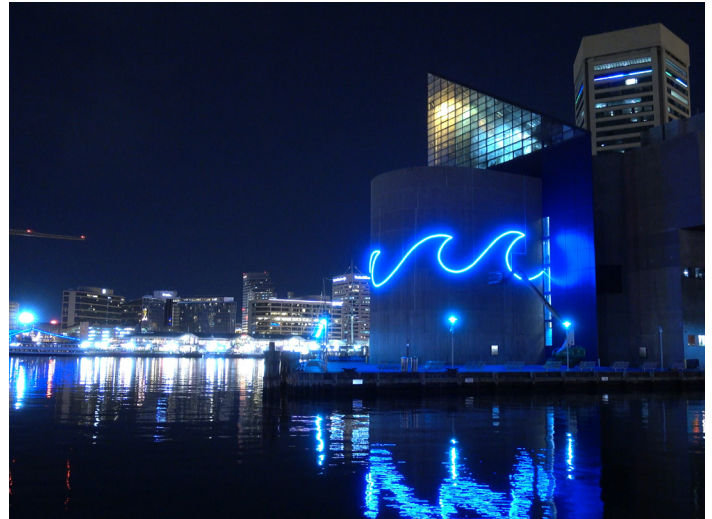


When: Sunday, September 18, 2022

Where: National Aquarium

Registration Fee: \$95

Kick off your Dam Safety 2022 experience with a uniquely Baltimore experience at the National Aquarium. The nonprofit National Aquarium opened on August 8, 1981, the jewel of Baltimore City's Inner Harbor redevelopment. With a mission to inspire conservation of the world's aquatic treasures, the Aquarium is consistently ranked as one of the nation's top three aquariums nationally and as Maryland's largest paid tourist attraction, featuring thousands of fishes, birds, amphibians, reptiles and mammals living in award-winning habitats. The conference kick-off registration fee comes with the ability to tour the aquarium and join fellow registrants for a private reception. Enjoy hors d'oeuvres and cocktails while catching up with old friends and making new ones.



Sponsored by:



We're pushing the limits of what's possible.

Water connects us and affects us all. We recognize water's role in the natural cycles of our planet; its connections to land, food, and energy — and perhaps most importantly, its influence on our cities, our societies, and our cultures.

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Challenging today.
Reinventing tomorrow.

Specialty Workshops



Full-Day Workshop: The Development of Dam Safety Technology and Governance Systems in Response to Major Dam Safety Incidents and Failures

When: September 22, 2022 from 8:30 am - 5:00 pm Eastern

Registration Fee: \$300

This workshop will present the history of dam safety technology and governance systems development in the areas of seepage, shear strength of clays and clay shales, embankment stability analyses, liquefaction, and rock foundation stability. Timelines illustrating technology development will be presented along with overviews of significant technology milestones. The influence of major dam failures and incidents that helped to drive technology and governance system development will be reviewed including presentations on major failures such as St. Francis Dam, CA; Fort Peck Dam, MT; Malpassett Dam, Italy; Lower San Fernando Dam, CA; Teton Dam, ID; and Big Bay Dam, MS. A list of key references will be provided to all attendees to assist in workshop preparation and self-study following the workshop.

Instructor:

Keith A. Ferguson, PE, VP, D.GE, D.WRE, HDR

Mr. Ferguson has over 44 years of planning, design, and construction experience across the US and internationally. He holds Bachelor and Master of Science degrees from the University of Colorado in civil and geotechnical engineering and is a registered professional engineer in 18 states. He is a recognized leader in dam safety, risk analysis, seepage and stability analyses, seismic response evaluations for embankment and concrete dams, in rock mechanics, and in the design of embankment, roller compacted concrete, and rockfill dams. Keith was chair of the ASDSO Dam Safety Journal Editorial Committee from 2008 to 2013, has been a member of the ASDSO Advisory Committee for over 20 years, and is an active participant in the ASDSO Dam Failures and Incidents Committee. Keith actively promotes the importance of understanding the historical context of major dam failures and incidents and the development of dam safety technology. He is a principal professional associate and dam and hydraulic structure practice director for HDR Engineering, Inc.

Full-Day Workshop: Write Right

When: September 22, 2022 from 8:30 am - 5:00 pm Eastern

Registration Fee: \$300

This workshop gives technical professionals and others a refresher about grammar rules and usage with examples related to their fields. Participants will practice writing strong, effective sentences that will give them more control of their expression and improve their general writing and editing skills. Importantly, the workshop leader will show participants how they can lessen their vulnerability to liabilities (and resulting lawsuits) caused by vague, ambiguous, and otherwise-faulty language.

Who Should Attend:

This workshop has been designed specifically for the technical and non-technical personnel of civil engineering, geotechnical engineering, structural engineering, environmental services, construction materials engineering and testing, and similar firms and other organizations, such as government agencies. Firm branch-office and project managers, environmental scientists, graduate engineers, professional engineers, directors of field service, marketing personnel, and others will benefit from improved writing skills.

Instructor:

The workshop leader is John Philip Bachner, president and CEO of Bachner Communications, Inc. John has written more than 250 books, texts, manuals, and guides including GBA's *Contract Reference Guide* (editions 2, 3, 3.1, and 4); the ECS *Contract Reference Guide*, editions 1 and 2; the DPIC's *Guide to Better Contracts*; the RA&MCO *Contract Reference Guide*; and well-received books and guides on subjects such as forensic engineering, alternative dispute resolution, case histories, and limitation of liability. Other books include *Practice Management for Design Professionals* and *Marketing and Promotion for Design Professionals*. He also has to his credit some 2,500 magazine articles and columns, plus thousands of newsletters, case histories, and flyers. He has written, directed, and produced hundreds of successful television and radio ads. He lectures and leads seminars throughout the United States. His columns appear regularly in GeoStrata magazine.

Specialty Workshops



Half-Day Workshop: Two-Phase Flow Tailings Dam Breach Modeling

When: September 22, 2022 from 8:30 am - 12:30 pm Eastern

Registration Fee: \$200

Assessing mudflow hazard from a tailings dam breach with a 2-D flood routing model is the industry standard, but the uncertainty of the sediment modeling is the primary limitation in the accurate prediction of a downstream flood hazard assessment. A two-phase flow modeling component has been developed in the FLO-2D model. The new 2-phase hyperconcentrated sediment flow component simulates a tailing dam breach with reservoir water storage and predicts both the downstream fluid and mudflow inundation. When a tailings dam with water storage fails, initially there is a distinct fluid floodwave that propagates downstream as the water flow moves overtop the tailings in the reservoir. The fluid phase scours the tailings surface as the mudflow mobilizes through the breach. Over a relatively short distance, the fluid and mudflow phases mix and become a mud flood with some mudflow cessation deposits downstream of the breach. The fluid phase continues in advance of the slower mudflow phase and may initially scour, then deposit on the downstream bed.

The FLO-2D model is applied worldwide to simulate tailings dam breach failures. This 4-hour workshop will describe these physical processes in detail and will focus on the creation of a tailings dam breach project using the two-phase component.

The workshop will include a theoretical presentation (1.5 hrs) and a hands-on project (2.5 hrs). The practical lesson will show how to simulate a tailings dam breach failure and route the breach hydrograph as two-phase fluid flow (water and mudflow) downstream and delineate the hazard mudflow inundation. A new GUI for tailings dam breach studies supported by robust pre- and post-processor tools in the QGIS geographic information software will be used. This 2-phase modeling approach represents a new level of predictive analysis for tailings dam breaches and mudflows.

The workshop will include a 3-month FLO-2D PRO license.

Workshop Topics:

- ▶ Introduction to the QGIS Plugin Tool and FLO-2D model.
- ▶ Build the detailed flood model components for the tailings dam breach with water storage.
- ▶ Run the model and predict downstream fluid and mudflow inundation.
- ▶ Assess mudflow cessation and sediment scour/deposition.
- ▶ Apply tailings dam tool to verify volume releases.
- ▶ Discuss results.

Instructors:

- ▶ Noemi Gonzalez, Ph.D., FLO-2D Software
- ▶ Karen O'Brien, FLO-2D Software
- ▶ Jim O'Brien, FLO-2D Software



Field Trips



Field Trip: C&O Dam 5

When: Thursday, September 22, 2022

Registration Fee: \$95

This tour will be led by the National Park Service, Chesapeake & Ohio Canal National Historical Park and includes visits to historic Potomac Dam No. 5 and the recently rehabilitated Conococheague Aqueduct. Potomac Dam No. 5 was originally constructed between 1833 – 1835, and modified substantially in 1857 – 1873. This historic stone masonry structure is a run-of-the-river dam that impounds over 4,900 acre feet of reservoir on the Potomac River, creating freshwater habitat, recreation opportunities, hydroelectric generation, and preservation of the original engineered structure that served the historic canal system up to 1924. Various modifications have been done to-date, including one in the near future for the stabilization of the left abutment that is currently in design. Attendees will be briefed on the historic events associated with the dam, and a preview of what is to come in the near future to rehabilitate it. The Conococheague Aqueduct is the 5th of the 11-aqueducts on the Chesapeake & Ohio Canal, which was recently rehabilitated with a ribbon cutting on August 8, 2019 to result in a fully watered structure. Participants will learn about the engineering and preservation practices involved in stabilizing the original structure that dates back to 1834 and received the 2020 National ACI Excellence Award in the Repair and Restoration Category & the 2020 Maryland Preservation Award for Outstanding Stewardship by a Government Agency. The tour will also include a tour of the Honeywood Power Plant located on the West Virginia side of the river and operated by Eagle Creek Renewable.

The tour will depart the Baltimore Convention Center at 8:00 AM and will return around 4:00 PM eastern. All attendees must ride the provided transportation to attend.

Field Trip: Potomac Levee

When: Thursday, September 22, 2022

Registration Fee: \$95

The National Park Service manages some of our country's most prized icons, including the Washington Monument, Jefferson Memorial, and Lincoln Memorial, National Mall, East and West Potomac Park, Presidents Park, the White House grounds and numerous other parks and monuments. Most of the NPS lands west and south of the Washington Monument were created by dredging and filling operations and lies only 6 to 12 feet above sea level. Following the 1936 Great Flood, the US Army Corps of Engineers was authorized and constructed a permanent Washington DC Levee system along the Lincoln Reflecting Pool. The National Park Service is the levee sponsor and is responsible for the operation and maintenance of the levee system. In order for traffic on 17th Street to continue to flow at grade, a gap was left between the east end of the levee and the Washington Monument grounds. Failure to erect the 17th St Closure structure and the 23rd St sandbag dike before a major flood event on the Potomac River will result in billions of dollars of damage, loss of nationally-critical federal government operations, interruption of congressional/national security operations, and flooding of 1,000 homes. Most importantly, lives will be lost.

Site visit participants will observe the active installation of the 17th Street panel closure exercise by the Park as well as learn about the hydrologic history of the area, the design of the Potomac levee system, and the operational and maintenance impacts to the Park.

The tour will depart the Baltimore Convention Center at 8:00 AM and will return around 4:00 PM eastern. All attendees must ride the provided transportation to attend.

Awards Luncheon



Monday, September 19: 12:00 pm - 2:00 pm

ASDSO annually honors those individuals and organizations making exemplary contributions to the improvement of dam safety in the U.S. These awards will be presented at the ASDSO Awards Luncheon on Monday, September 19. All registered conference attendees are welcome.

Any or all of the following may be on this year's awards program:

National Rehabilitation Project of the Year: This award recognizes the developer of a unique remedial design that advances the state-of-the-art in the field of dam safety and exemplifies the high professional engineering standards that dam safety requires.

National Award of Merit: Chosen by the ASDSO Board of Directors, this award honors an individual or organization contributing to dam safety on a national level.

Regional Awards of Merit: Awarded to individuals, companies, municipalities, or other entities that have made outstanding contributions to dam safety on a regional level.

Joseph Ellam President's Award: The ASDSO president gives special recognition to someone, either for contributions to the advancement of dam safety or for specific assistance to the president over his/her term of office.

Terry L. Hampton Medal: Awarded by ASDSO's Advisory Committee, the Hampton Medal is given to an individual for outstanding contributions to research and/or practice in hydrologic and hydraulic engineering for dams.

Danny McCook Medal: Awarded by ASDSO's Advisory Committee, the McCook Medal is given to an individual for outstanding contributions to research and/or practice in geotechnical engineering for dams.

Student Awards: These include the Student Paper Competition winners, the recipient(s) of the Senior Undergraduate Scholarship, and the Model Dam Competition.

Honorary Membership: Selected by the ASDSO Board of Directors, this award honors an individual for lifetime contributions to the organization.

Bruce A. Tschantz Public Safety at Dams Award: Awarded by ASDSO's Public Safety Around Dams Committee, with confirmation by the Board of Directors, this award is given to a person who takes on the role of 'local champion' and works to improve safety at dams.

Young Professional of the Year Award: Awarded by ASDSO's Young Professional Advisory Committee, with confirmation by the Board of Directors, the award is given to a young professional for outstanding contributions to the field of dam safety and ASDSO.

Media Award: Awarded by ASDSO's Media Outreach Committee, with confirmation by the Board of Directors, this award recognizes the contributions made by media outlets and journalists who made an influence on dam safety.



Exhibitors



As of June 3, 2022

AECOM

AquaBlok, Ltd.

ASI Group

Ayres

Ballard Marine Construction

Barnard Construction

Barr

Bentley Systems

Brayman Construction Corp.

Bureau of Reclamation

Campbell Scientific

Canary Systems

Carpi USA, Inc.

CDM Smith

Coastal Drilling East, LLC

Contech Engineered Solutions LLC

Crofton Industries

D'Appolonia Engineering

Dam Safety Group

DeWind One Pass Trenching, LLC

ECS

Esri

Federal Emergency Management Agency

FLOW-3D HYDRO

Freese and Nichols

Gannett Fleming

GEI

GeoEngineers, Inc.

GEOKON

Geosyntec

Geotechnics, Inc.

Hanson

Hazen

HDR

Hibbard Inshore, LLC.

Hydroplus Inc.

J.F. Brennan Company, Inc.

Jacobs

Keller

Kleinschmidt Associates

Michael Baker International

Morgan Corp

Mount Sopris Instruments

Nicholson Construction

NRCS/ARS

Obermeyer Hydro, Inc.

OneRain / AEM

Onset

Phillips & Jordan

Portland Cement Association

Powertech Labs Inc.

Propex

Ramboll

Rezatec

Richard Goettle, Inc.

Rizzo International

Schnabel Engineering

Stantec Consulting Services Inc.

Terra Insights

Tetra Tech

Thalle Construction Company

Thorcon Shotcrete and Shoring, LLC

Tunnel Radio of America

U.S. Army Corps of Engineers

UAI Solutions

US Engineering Solutions

Vertical Access

W. W. Wheeler & Associates, Inc.

Watershed Geo

Wood

Worthington Products, Inc.

Become An Exhibitor/Sponsor!

Visit DamSafety.org/DS22EXS or contact Ross Brown at rbrown@damsafety.org to learn how you can become an exhibitor and/or sponsor of Dam Safety 2022.

Watch for updates to the Exhibitor List at DamSafety.Org

Sponsors



As of June 6, 2022

PLATINUM

AECOM



GOLD



SILVER



BRONZE



Networking Events



One of the most valuable experiences you can have at a conference is networking. While the conference schedule can make it hard to find time to meet new people, ASDSO has built in numerous opportunities for you to expand your professional network and meet new dam and levee safety professionals. Aside from the technical sessions, workshops, and field trips, below are a few of the many opportunities provided by Dam Safety 2022.

Exhibit Hall

The networking hub of the conference, the exhibit hall offers a plethora of opportunities to network with fellow attendees.

Receptions and Special Events

Two evening receptions will be held in the exhibit hall, Monday, September 19 and Tuesday, September 20. Enjoy appetizers and network with over 100 exhibitors where you have the opportunity to learn about the latest, and greatest products and services available. In addition to the receptions, lunch is provided in the exhibit hall on Tuesday, September 20 and Wednesday, September 21, and breakfast and breaks are held in the exhibit hall on Tuesday, September 20 and Wednesday, September 21.

Resource Center & Lounge

Located in the center of the exhibit hall, the Resource Center & Lounge is the perfect place to relax, recharge your batteries (as well as your phone), and meet new people - or catch up with old friends. Plus, all door prize drawings will be held in the Resource Center.

Kick-off Event at the National Aquarium

Start your conference off on the right note by joining us for a private reception at the Baltimore National Aquarium. Enjoy hors d'oeuvres and drinks while walking around the aquarium and networking with colleagues.





Delivering sustainable legacies

AECOM draws upon our network of dam, hydropower, levee and mining experts to provide technical excellence for the most complex project. Our network of global experts work collaboratively with our clients to provide tailored and innovative solutions to meet their unique needs.

Ed A. Toms, P.E.
Americas/Global Dams Market Sector Leader
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Agenda



SATURDAY, SEPTEMBER 17

1:30 PM - 5:00 PM
Board of Directors Meeting

SUNDAY, SEPTEMBER 18

TIME TBA
Registration Open

10:00 AM - 12:00 PM
Risk Workshop for State Programs

12:00 PM - 6:00 PM
Speaker Preview Room Open

1:30 PM - 3:00 PM
Regional Caucus Meetings

3:30 PM - 5:30 PM
Annual Meeting of State Representatives

7:30 PM - 10:00 PM
Conference Kick-off Event at the National Aquarium

MONDAY, SEPTEMBER 19

7:00 AM - 8:00 PM
Speaker Preview Room Open

7:00 AM - 5:30 PM
Registration Open

7:00 AM - 8:30 AM
Continental Breakfast

7:00 AM - 1:00 PM
Exhibit Hall Set-Up

8:30 AM - 10:00 AM
Opening General Session - Welcome and 50th Anniversary of the Buffalo Creek Dam Failure

ASDSO Welcome
Charles Thompson, P.E., Dam Safety Bureau, NM Office of the State Engineer

Maryland Welcome

Buffalo Creek Dam Failure - Reexamination of the Postulated Failure Mode
Keith Ferguson, HDR

Buffalo Creek Dam Failure of 1972 - Policy Outcomes from the Failure
Jonathan Pittman, Schnabel Engineering

Consequences and Lawsuit from the Buffalo Creek Disaster
Nathaniel Gee, Tennessee Valley Authority

10:00 AM - 10:30 AM
Break

10:30 AM - 12:00 PM
Session 1 - Decade Dam Failures Series Part I
Moderator - Dusty Myers, Eagle Creek Renewable Energy

Human and Social Impacts of the Lawn Lake Dam Failure of 1982
Dylan Hoehn and Clint Brown, Engineering Analytics, Inc.; Mark Baker, DamCrest Consulting; and Alan Pearson

50th Anniversary of the 1972 Black Hills Flood and Subsequent Canyon Lake Dam Failure - A Disaster of PMP-level Proportions
Keil Neff, Stantec Consulting Services, Inc.; Abbas Dorostkar, Ph.D., PE, P.Eng., Pacific Gas & Electric Company; Greg Richards, P.E., CFM, Gannett Fleming, Inc.; and Lee Mauney, P.E., CFM, HDR

1802 Failure of Puentes II Dam
A. Tom MacDougall and Diego Saldaña Arce, Ph.D., RJH Consultants, Inc.; and Seth Thompson, P.E., Gannett Fleming, Inc.

10:30 AM - 12:00 PM
Session 2 - Understanding Seepage
Moderator - Benjamin Webster, Schnabel Engineering

Large Scale Permeameter Tests for Internal Erosion Assessment of Widely Graded Materials in Embankment Dams
Maoxin Li and Li Yan, P.Eng., Ph.D., BC Hydro; and Sasi Sasitharan, P.Eng., Ph.D., Powertech Labs Inc

Erosion Resistance and the Impact of Water Content
Peter Irely and Ted Howard, P.E., Bureau of Reclamation

A Mooseload of Piezometers: Investigation and Remediation of Seepage at Upper Dam
Gillian M. Williams and Lee Wooten, P.E., GEI; Chris Karam, P.E., Brookfield Renewable; and Steve Rabasca, P.E., Soil Metrics, LLC

10:30 AM - 12:00 PM
Session 3 - What's New in Roller Compacted Concrete
Moderator - Alan Orsi, Pare Corporation

Using Cool New Tools to Reduce Risks at Comanche Dam
Steve Jamieson and Christine Mugele, P.E., W.W. Wheeler & Associates,

This agenda is as of June 1, 2022.
Some agenda presentations subject to change.
Up to 36 PDH credits for DS22!

Agenda



Inc.; David Hibbs, P.E., and Brad Iarossi, P.E., US Fish & Wildlife Service; and Jesse Wullenwaber, P.E., Schnabel Engineering

Lessons Learned or Should Have Learned – RCC Design and Construction
Randall P. Bass, Schnabel Engineering

I dare you to knock this off! Physical Model Testing of Crest Caps on RCC Overlays
Tony L. Wahl and Bryan J. Heiner, P.E., Bureau of Reclamation

10:30 AM – 12:00 PM

Session 4 – High-Tech Hydrology

Moderator – Benjamin Israel-Devadason, Gannett Fleming, Inc.

Hydrologic vs Hydraulic Rainfall-Runoff Modeling
Michael Horst, The College of New Jersey

Applying Stochastic Weather Generation and Continuous Hydrologic Simulation for Critical Infrastructure Design
Joe Bellini and Dennis Johnson, Ph.D., Aterra Solutions; and Bill Kappel and Doug Hultstrand, Ph.D., Applied Weather Associates

Application of a 21-year Radar Rainfall Record to Assess Changing Probability of Extreme Rainfall in the Mid-Atlantic Region

Andrew J. Miller, UMBC; James A. Smith and Mary Lynn Baeck, Princeton University; and Elijah Claggett, Kyushu University

12:00 PM – 2:00 PM

Awards Luncheon

2:00 PM – 3:30 PM

Exhibit Hall Opens

2:15 PM – 3:30 PM

Lightning Talks in the Exhibit Hall

3:30 PM – 5:00 PM

Session 5 – Warning and Consequences

Moderator – James T. Pawloski, P.E., James T. Pawloski, PE, LLC

Improved Monitoring at Upper Highline Dam to meet Colorado's Early Warning System Program Requirements

Lee Mauney, Loring Crowley, and Eric Eisinger, HDR; Nicole Young, Colorado Parks and Wildlife; and Scott Bores, OneRain, Inc.

Bureau of Indian Affairs Safety of Dams – Early Warning System Challenges and Advancements

Michele Minihane, Katharine Anderson, Kevin Humphreys, and Tim Pauls, Managed Business Solutions (MBS), a Sealaska Company

Estimating Dam Failure Life-Loss Consequences to Motorists, Recreationalists, and Pedestrians for Hazard Potential Classification of Dams

Chad Krofta, David Jackson, P.E., and Christopher Clopper, P.E., Managed Business Solutions (Contractor to Bureau of Indian Affairs); and Matt Young, P.E., CFM, Bureau of Indian Affairs

3:30 PM – 5:00 PM

Session 6 – Improving Inspections

Moderator – Kristin Ray, Hazen and Sawyer

Risk-Based Dam Inspection Guidelines – Montana Learns from the Oroville Dam Incident

Amanda J. Hess, Greg Richards, P.E., CFM, and Patrick Campana, Gannett Fleming, Inc.; and Michele Lemieux, P.E., MT Department of Natural Resources and Conservation

A Lot of Dam Data! Using ESRI's Survey123 and Field Maps Applications To Efficiently Collect Data and Standardize Quarterly Inspection Packages for 30 Dams
Meron Wolde-Tensae, P.E., Hazen and Sawyer; and Brandon K. Harris, P.E., Gwinnett County Government, Department of Water Resources

Together is Better – Complimenting Assessments Utilizing Rope Access and Unmanned Aerial Vehicles

Kenny Dosanjh, Matt Lynch, Eduard Egov, P.E., SPRAT III, and Michael Buga, P.G., C.E.G, SPRAT I, HDR

3:30 PM – 5:00 PM

Session 7 – Potpourri Grab N Go

Moderator – John Ritchey, French & Parrello

Articulating Concrete Block (ACB) Design Practice Update (15 Minutes)

Christopher I. Thornton, Colorado State University-Fort Collins; Jim Nadeau, Ferguson Waterworks; Jon Fripp and Karl Visser, USDA – NRCS; and Dennis Zeveney, US Army Corps of Engineers

The Tale of Two Spillways (15 Minutes)

Joseph Bell, James Murphy, and Paul Schweiger, P.E., Gannett Fleming, Inc.; and Constantine Pappas US Fish & Wildlife Service

How Latest CFD and 2-D Modeling Capabilities Support Dam Rehabilitations (15 Minutes)

Ahintha Kandamby, Michelle Bowen, Chamil Perera, and Mathew Lunemann, WSP

Homogeneous vs. Heterogeneous Concrete Considerations in PFMA (15 Minutes)

Amin Hariri, HDR; and Larry Nuss, Nuss Engineering LLC

Dynamic and Static Liquefaction Study for a New Earthen Dam in Colorado (15 Minutes)

Todd Street and Amin Ghorbanpour, W. W. Wheeler and Associates, Inc.

Caldor Fire Emergency Repairs (15 Minutes)

Amy Deakyne, GHD, Inc.

3:30 PM – 5:00 PM

Session 8 – It's Maryland, Hon

Moderator – Harald Van Aller

Brighton Dam: Working Together to Repair Unanticipated Damage and Deterioration to Tainter Gates

Brad Zelonis, P.E., Kleinschmidt Associates; Richard F Walker, Jr., P.E., Scott

Agenda



Jones, P.E., Ph.D., Robert Pinciotti, P.E., and Eric Wenz, P.E., AECOM; and Claude Modise, P.E., and Karen A. Wright, WSSC Water

Goldilocks and the Three EAPs: Working with EAP Templates and Inundation Mapping Guidelines to Ensure They are "Just Right" for your Dam
Kate Naughton, Jeffery Powers, and Jeremy Hise, Hazen and Sawyer; and Nancy Hausrath, William Luhn, and Kellen Douglas, City of Hagerstown

Historic Ellicott City, Maryland Flooding: Safe and Sound Mitigation Plan
Mark S. Richmond, Howard County Stormwater Management Division

5:00 PM – 6:30 PM
Welcome Reception in the Exhibit Hall

TUESDAY, SEPTEMBER 20

7:00 AM – 8:30 AM
Breakfast

7:00 AM – 8:00 PM
Speaker Preview Room Open

7:30 AM – 5:30 PM
Registration Open

8:30 AM – 10:00 AM
General Session 2 – Dam Safety 3.0 – Are We Facing a Paradigm Shift?
Panel Discussion

10:00 AM – 10:30 AM
Refreshment Break in the Exhibit Hall

10:30 AM – 12:00 PM
Session 9 – Explaining Environmental Justice
Moderator – Carmen Lepsch, Schnabel Engineering

Mapping Maryland's Inundation Zones
John Roche and William Ashby, MD Department of the Environment

The Justice40 Initiative related to Dams and Flood Protection Infrastructure
Cynthia Hartley and Dennis J. Hogan, P.E., AECOM

What Should We Protect? Consequence Analysis that Reflects Communities' Unique Assets and Vulnerabilities
Katherine Sharpe and Kayla Briggs, Gannett Fleming, Inc.

10:30 AM – 12:00 PM
Session 10 – ASDSO Resources Making an Impact
Moderator – Kate Naughton, Hazen and Sawyer

ASDSO's Technical Knowledge Base – A New Online Resource for the Dam Safety Industry
Greg Richards, Gannett Fleming, Inc.; and Jeremy Franz, CO Division of Water Resources (20 Minutes)

Debris, Fire, and Ice – Unusual Hydrologic Conditions and their Impact on Dams and Floods (Recent Highlights from DamFailures.org) (60 Minutes)

Greg Richards, Gannett Fleming, Inc.; Bill Johnstone, Spatial Vision Group Inc.; Doug Johnson, Federal Energy Regulatory Commission; Everett Taylor, UT Division of Water Rights; John Atkins, Eagle Creek Renewable Energy; and Nathaniel Gee, Tennessee Valley Authority

10:30 AM – 12:00 PM
Session 11 – Focus on Seismic Issues
Moderator – R. Craig Findlay, Findlay Engineering

Considerations for Subsurface Investigations for Seismic Analysis with Insights for Current State of Practice
Khaled Chowdhury, Ethan Dawson, Ph.D., Georgette Hlepas, Ph.D., P.E., Michael Arles, P.G., and Cassandra M. Wagner, P.G., US Army Corps of Engineers; Zia Zafir, Ph.D., P.E., G.E., Kleinfelder; and Raymond B. Seed, Ph.D., Professor Emeritus, University of California, Berkeley

Framework for Seismic Risk Analysis of Embankment Dams with Examples for the Eastern and Western U.S.
Martin W. McCann, Jr., Jack R. Benjamin and Associates, Inc.; and Glenn J. Rix, Ph.D., P.E., Geosyntec Consultants

How Do You Perform a DSHA for a Distributed Seismicity Source?
Christie Hale, Glenn J. Rix, Ph.D., P.E., and E. Onur Tastan, Ph.D., P.E., Geosyntec Consultants

10:30 AM – 12:00 PM
Session 12 – Small But Dangerous. A Programmatic View of Low Head Dams
Moderator – Brian McCormick, Colorado Springs Utilities

Refining Estimates of Dangerous Conditions Below Low-Head Dams: Hydraulic Considerations
Tony L. Wahl and Connie D. Svoboda, P.E., Bureau of Reclamation

Machine Learning for Locating Low Head Dams
Salvador Augusto Vinay Mollinedo and Rollin H. Hotchkiss, Brigham Young University

Stream Slope Map to Predict Drowning Potential at Low-Head Dams
Jason Poff and Rollin Hotchkiss, Brigham Young University

10:30 AM – 12:00 PM
Session 13 – Spillway Hydraulics
Moderator – Dylan Hoehn, Engineering Analytics

Testing the Limits of 2D Modeling in Turbulent and Rapidly-Varying Flow Conditions along Open Channel Spillway Systems
Joe Bellini, Dennis Johnson, Ph.D., and Tom Saldutti, Aterra Solutions, LLC

Is that a Hydraulic Jump Basin or a Roller Bucket? Physical Modeling of the Gross Dam Spillway Stilling Basin
Greg Glunz and Frank Lan, Ph.D., P.E., AECOM; Chris Thornton, Ph.D., P.E., Colorado State University; Felipe Garcia, P.E., Stantec Consulting Services, Inc.; and Casey Dick, P.E., Denver Water

Agenda



To Step or Not to Step, That is the Question! - Using SpillwayPro to Evaluate Increased Discharge or Design Head

Bryan J. Heiner and Tony L. Wahl, Bureau of Reclamation

12:00 PM – 1:30 PM

Lunch in the Exhibit Hall

1:30 PM – 3:00 PM

Session 14 – Decade Dam Failures Series Part II

Moderator – Seth Thompson, Gannett Fleming, Inc.

Christmas Catastrophe: Crisis Averted At Adams Lake Dam (15 Minutes)

Robert C. Hatton and Jon Keeling, P.E., CFM, Stantec Consulting Services, Inc.; and Ben Webster, P.E., P.M.P., Schnabel Engineering

Eastwick Railroad Fill Failure, Washington State, 1932 (15 Minutes)

Douglas L. Johnson, Federal Energy Regulatory Commission

1952 Failure of Frenchman Creek Dam, Montana (15 Minutes)

Greg Paxson, Schnabel Engineering

10th Anniversary of the Percy Quinn Dam Incident – Two Slides, Two States, One Big Mess! (15 Minutes)

Dusty Myers and Johnathon Atkins, P.E., Eagle Creek Renewable Energy

1912 Collapse of the Nashville City Reservoir: From Failure to Fortress (15 Minutes)

Jonathan Pittman, Schnabel Engineering; and Dawning Wu, EIT, HDR

1992 Fairfax Lake Dam Piping Incident and Repair (15 Minutes)

Natalie Orbesen, Zachary Hollandsworth, P.E., and Cecil Bearden, P.E., Oklahoma Water Resources Board

1:30 PM – 3:00 PM

Session 15 – Dam Removal Part I

Moderator – Nils Anestad, Ramboll

Multi-Benefit Dam Removal Projects for Dam Safety—Dam Removal as a Dam Safety Solution

Katherine Schmidt, Serena McClain, Jessie Thomas-Blate, and Brian Graber, American Rivers

Happy Hour is Here Again! – Long Draught Branch Dam Removal and Stream Restoration

Justin Lennon, Kyle Spendiff, and Michael Coco, P.E., WSP; and Dana Havlik, P.E., MD State Highway Administration

Federal Actors in Dam Removal Policy: Legal and Bureaucratic Influences in the Decommissioning of Powered and Non-Powered Dams in the United States

Arianna Dreschler, Marquette University

1:30 PM – 3:00 PM

Session 16 – State Perspectives on Portfolio Risk Analysis

Moderator – Amanda Lopez, AECOM

Evaluating and Prioritizing Risk for a Portfolio of Dam Assets

Nicolette Schluter, Jeff Blass, P.E., and G. Michael McIntyre, P.E., AECOM;

Spyridon Papadimas, P.E., MD Department of General Services; and Perry Otwell, P.E., and John Roche, P.E., MD Department of Natural Resources

Where to Focus: Benefits of a Portfolio-Level Risk Analysis

Aaron J. Fricke, Christopher B. Burke Engineering, LLC; and Jamie Miller, IN Department of Natural Resources

Integrating Risk into the North Carolina State Dam Safety Program

Tony Grubbs, Freese & Nichols; and William E. Toby Vinson, NC Department of Environmental Quality

1:30 PM – 3:00 PM

Session 17 – Innovations In Monitoring Methods

Moderator – Elizabeth Landowski, Gannett Fleming, Inc.

Improvements in Geophysical Investigations of Earth Fill Dams

Ahmed Ismail, Zonaed Szal, and Oluseun Sanuade, Oklahoma State University

Acoustic Methods to Detect Anomalies in an Embankment Dam – A Comparison With Other Geophysical Methods

Sam Johansson, PhD., HydroResearch AB; Ingvar Ekström, M.Sc., Sweco AB; and Mats Persson, Vattenfall Vattenkraft, M.Sc.

Use of InSAR to Support Dam Monitoring Programs

Cyrus D. Garner, Jordan Keeney, P.E., and Mike Davis, P.Eng., Stantec Consulting Services, Inc.

1:30 PM – 3:00 PM

Session 18 – Modifying Low Head Dams

Moderator – Jesse Pope, Stantec Consulting Services, Inc.

Dam Good Fishing without the Snags – Fish Passage at a Low Head Dam

Carmen Lepsch and John Harrison, P.E., Schnabel Engineering; and Brian Crookston, Ph.D., P.E., Utah State University

Willow River Dam – Innovative Conversion to Rapids

Jessica Olson, Barr; and Crystal Payment, MD Department of Natural Resources

Simple Design of a Safe Low-Head Dam

Paul A. Cocca and Daniel A. Bennett, US Army Corps of Engineers; and Marta Lopez-Egea, Golder Associates

3:00 PM – 3:30 PM

Break in the Exhibit Hall

3:30 PM – 5:00 PM

Session 19 – Spotlight on State Programs

Moderator – Cory Miyamoto, CA Department of Water Resources

Inundation Studies and Downstream Hazard Determination Guidance for Ohio Dams

Matt Marquis, OH Department of Natural Resources

Agenda



Use of Rapid Categorization of Assets Tool (RCAT) for Gap Analysis of Physical Security Measures for Flood Management Facilities in California
Rajat Saha, John J. Rizzardo, P.E., Jon Ericson, P.E., and John Paasch, P.E., M. Eng., CA Department of Water Resources; and James L. Strife, CPP, PCI, CHPA, Gannett Fleming, Inc.

Trampas Canyon Dam Enlargement
Rick Draeger and Ashley Gobel, P.E., CA Department of Water Resources, Division of Safety of Dams

3:30 PM – 5:00 PM

Session 20 – Dam Removal Part II
Moderator – Mark Di Lullo, Ramboll

Assessing the Pre-Dam Removal Ecological Functions of Blackwater Creek, 90 Years after the Construction of College Lake Dam: A High Hazard Dam
Brandon Alderman, AECOM; and Erin Hawkins, City of Lynchburg

Dam Removal using a Pilot Channel for Sediment Management
Maren Hancock, Inter-Fluve, Inc.

Breaching and Environmental Impacts of Woodlands Lake Dam a High Hazard Dam
Ivan Gomez and Beth Ann Smith, GHD; Nadia Savage, Westchester County Department of Public Works and Transportation; and David DeLucia, Westchester County Department of Parks, Recreation and Conservation

3:30 PM – 5:00 PM

Session 21 – Rehabilitation Methods and Materials
Moderator – Gillian Williams, GEI

Researching Grout Mix Performance in the Presence of Low Velocity Crossflow Using Large Scale Laboratory Testing for Logan Martin Dam
Joshua Anderson, Alden Research Laboratory; and Eric Manning, P.E., Southern Company

Geosynthetics in Dam Construction and Rehabilitation Projects: An Update
Lucas de Melo, Michael Houlihan, and Joseph Kula, Geosyntec Consultants

Performance of the Boone Dam during Reservoir Filling following Remediation
John Barrett, Geosyntec Consultants; and Chris Saucier, P.E., Tennessee Valley Authority

3:30 PM – 5:00 PM

Session 22 – Developing Your Risk Toolbox
Moderator – Scott Anderson, GeoEngineers, Inc.

Leveraging PFMA to Address Unexpected Foundation Conditions during Active Rehabilitation on a Spillway Chute
Andrea Jacobs, P.E., Scott Jones, P.E., Ph.D., and David Bianco, AECOM; and Chad Knutti, P.E., Brookfield Renewable

Risk Informed Decision Making for Construction, Repair, and Maintenance Projects
Lewis Rounds, Ballard Marine Construction

Potential Failure Mode Screening Analyses
Glenn J. Rix, Geosyntec Consultants; and Martin W. McCann, Ph.D., Jack R. Benjamin and Associates

3:30 PM – 5:00 PM

Session 23 – Advancements In Inundation Mapping
Moderator – Gregory Glunz, AECOM

Painless Mapping Using New Mexico OSE Dam Inundation Mapbook Processing Toolset
Hui-Ming (Max) Shih and Allison Wagner, CDM Smith; and Charles N. Thompson, P.E., and David Heber, P.E., NM Office of the State Engineer

The Use of Dam Failure Inundation Maps in Exercises
Richard Kusmierczyk, Tennessee Valley Authority

The Domino Effect – A Look Into Cascading Dam Failures
Luke Trumble, MI Department of the Environment, Great Lakes, and Energy; Bill Kussman, P.E., Hatch; Mark Forest, P.E., CFM, and Lee Mauney, P.E., CFM, HDR; and Mark Baker, P.E., DamCrest Consulting, LLC

5:00 PM – 6:30 PM

Exhibit Hall B
Reception in the Exhibit Hall

WEDNESDAY, SEPTEMBER 21

7:00 AM – 3:30 PM
Speaker Preview Room Open

7:30 AM – 3:30 PM
Registration Open

7:00 AM – 8:30 AM
Breakfast

8:30 AM – 10:00 AM
Session 24 – Levee Management
Moderator – William Rochford, USACE

Reverse Water Loadings for Levee Systems – A Lesson from Hurricane Ida
Will McRae, Noah Vroman, P.E., and Jennifer Stephens, P.G., US Army Corps of Engineers

Common Levee O&M Pitfalls – Keeping Sponsors Above Water
Vicki Twerdochlib and Brice Stafne, P.E., HDR; and George Parizek, P.E., City of Omaha, Nebraska

Inspecting Levees within Multiple Jurisdictions (15 Minutes)
Randy Bushey, Jacobs

The Benefits of Active Levee Sponsor Engagement in the Inspection Process (15 Minutes)
Kimberly Lukas and Daniel Teak, P.E., HDR

Agenda



8:30 AM – 10:00 AM

Session 25 – Geo Tech Case Studies

Moderator – Nason McCullough, Jacobs

No More Patches – The Stiles Reservoir Dam Solution in Leicester, MA
J. Matthew Bellisle and David R. Caouette, P.E., Pare Corporation

Anchoring Down in the Peach State

Nate Witter, P.E., Nicholson Construction Company; and Nick Ciomei, P.E., Kleinschmidt Group

Run-Of-River Dam Construction: A Team Approach to Navigating Changing Waters (15 Minutes)

James Guistina, Bergmann; and Caroline Wheadon, Labella Associates

Leon Hurse Dam – Characterization and Construction Approval of a Five Million Cubic Yard Borrow Area (15 Minutes)

Mark Ickert and Russ Springer, P.E., Freese and Nichols, Inc.

8:30 AM – 10:00 AM

Session 26 – Assessing Spillway Conditions

Moderator – Kevin Ruswick, Schnabel Engineering

Flow Rates Through Joints and Cracks in Spillway Chutes

Tony L. Wahl and Bryan J. Heiner, P.E., Bureau of Reclamation

A New Cloud-Based Platform for Assessment of Rock Scout During Floods at High-Head Dams

E.F.R. Bollaert, AquaVision

Condition assessment of an urban spillway designed and built in three phases spanning 45 Years

Jeffrey R. Keaton, Wood; and Stewart S. Vaghti, P.E., Gannett Fleming, Inc.

8:30 AM – 10:00 AM

Session 27 – Rainfall: High and Low Frequencies

Moderator – Jeff Blass, AECOM

High-Frequency Rainfall-Runoff Modeling for Dam Safety Decision-Making

Brent Zundel, P.E., CFM, and Anthony Moritz, EI, MT Department of Natural Resources and Conservation

Quantification of Uncertainty in Precipitation Frequency Estimates Considering Climate Change

Azin Al Kajbaf, Michelle Bensi, Ph.D., and Kaye L. Brubaker, Ph.D., University of Maryland

State of Statewide PMP – Where We've Been and What's Next

Bill Kappel, Applied Weather Associates

10:00 AM – 10:30 AM

Refreshment Break in the Exhibit Hall

10:30 AM – 12:00 PM

Session 28 – Updates On The National Levee Safety Program

Moderator – Elena Sossenkina, HDR

The National Levee Safety Program: Do We Need a Standard for all Levees in the Nation?

Phoebe Percell, Tammy Conforti, P.E., and Jason Needham, US Army Corps of Engineers

10:30 AM – 12:00 PM

Session 29 – Near Miss

Moderator – Zachary Mickel, Geosyntec Consultants

Emergency Response at a High Hazard Dam Lasting Weeks

Mark W. Killgore, VA Department of Conservation and Recreation

Spillways, Sinkholes, and Slope Failures: Quick Thinking Saves Two Dams

Stephen Spink, P.E., and Timothy Blair, Weston & Sampson Engineers, Inc.

The 50-Year Anniversary of the Kingsley Dam Incident

Tim Gokie, NE Department of Natural Resources; and Michael A. Drain, P.E., The Central Nebraska Public Power and Irrigation District

10:30 AM – 12:00 PM

Session 30 – Advanced Geo Tech

Moderator – Joseph Kula, Geosyntec Consultants

Investigating and Addressing Seepage and Slope Stability Issues at Oroville Dam
Leslie F. Harder, Jr., HDR

Predicting Maximum and Minimum Void Ratio from Index Parameters

Alex Pires-Sturm and Robert Jaeger, Ph.D., P.E., CA Department of Water Resources, Division of Safety of Dams; and Jason DeJong, Ph.D., University of California, Davis

Experimental Overview of Static Liquefaction and Tips to Plan a Successful Laboratory Program

Amin Ghorbanpour, W. W. Wheeler and Associates

10:30 AM – 12:00 PM

Session 31 – CFD In Practice

Moderator – Jeffery Powers, Hazen

Hydraulic Analysis of a Labyrinth Spillway Using SRH2D

Jennilynn L. Janolo and Murari Paudel, Ph.D., P.E., CA Department of Water Resources, Division of Safety of Dams

Designing or Evaluating a Spillway? Know the Controllers of the Control Section!
Benjamin Israel-Devadason and Paul Schweiger, Gannett Fleming, Inc.

A Dive into DeHart Dam: How PMP Studies and CFD Modeling Can Reshape a Dam's Rehabilitation Alternatives

Wesley Hollenbach, Casey Robertson, Jeff Blass, P.E., and Scott Jones, P.E., Ph.D., AECOM

Agenda



12:00 PM – 1:30 PM

Lunch with the Exhibitors and Door Prize Drawings

1:30 PM – 6:00 PM

Exhibitor Move Out

1:30 PM – 3:00 PM

Session 32 – The Best Of The Rest

Moderator – Chad Davis, HDR

Dam and Waterway Construction in the early 1900's – A Photographic Journey Through Time

Gregory L. Johnson, Bergmann

Picture This: A 3-D Subsurface Model to Support Dam Design

Kyle Blakley and David Hayson, P.E., Stantec Consulting Services, Inc.

Caught Between the Ocean and a Watershed, Designing Climate Change Adaptations for Two Coastal Water Supply Dams in Rhode Island (15 Minutes)

Andrea Judge, Fuss & O'Neill, Inc.; Robert Schultz, Jr., City of Newport, Rhode Island; and Joseph Famely, Woods Hole Group

Dam, Analysis Modernization of Tools, Applications, Guidance, and Standardization (DAM-TAGS) Project (15 Minutes)

Sherry L. Hunt, Jarrett Wise, Michael Buser, and Kade Shelton, USDA – Agricultural Research Service Hydraulic Engineering Research Unit

1:30 PM – 3:00 PM

Session 33 – Federal Funding and Communications Initiatives

Moderator – Lucas A. Trumble, P.E., MI Department of the Environment, Great Lakes, and Energy

Conceptual Dam Safety Improvement Program Financed through Corps Water Infrastructure Financing Program

Robert Beduhn, Jeremy Cook, Derek Gardels, and Cris Parker, HDR; and Aaron Snyder and Nathan Campbell, PMP, US Army Corps of Engineers

Shifting the Focus to Proactive Community Investments through Collaborative Technical Assistance: A Western Maryland Case Study

Scott Bass, MD Department of the Environment; Preston Wilson, Federal Emergency Management Agency, National Dam Safety Program; and Rosemarie Bradley, Ph.D., Federal Emergency Management Agency, National Integration Center

Case Study: A Small Hydroelectric Dam Navigating FEMA's Hazard Mitigation Program

Emily Campbell, John Barrett, P.E., and Matt Bardol, Geosyntec Consultants

1:30 PM – 3:00 PM

Session 34 – Challenges With Cutoff Wall Construction

Moderator – Ken Catino, GHD

Design and Construction Challenges with a Multi-Level Seepage Cutoff Barrier

David Paiko and Randy Bushey, P.E., Jacobs Engineering; Kevin Aubry, P.E., Terracon Consultants, Inc.; and Joseph Albers, P.E., South Florida Water Management District

East Branch Dam: Lessons Learned during Cutoff Wall Verification Drilling
Sarah J. Missenda and Audrey Wingate, US Army Corps of Engineers

1:30 PM – 3:00 PM

Session 35 – Advancements In Inundation Mapping, Part II

Moderator – Jonathan Keeling, Stantec Consulting Services, Inc.

Probabilistic Dam Breach Analysis for Pennsylvania's Largest Dam Breach Inundation Limits

Joseph Kudritz, Ed Kaminski, P.E., and Brian Afek, P.E., Michael Baker International

Safe Zone Determination under the Dam Failure Condition

Xuejiang Dong, Southern California Edison

Replicating of Brumadinho Tailings Dam Failure: Using a Two-Phase Flow Model

Noemi Gonzalez Ramirez, Karen O'Brien, and Jimmy S. O'Brien, FLO-2D Software / Riada Engineering

3:00 PM – 3:30 PM

Refreshment Break

3:30 PM – 5:00 PM

Session 36 – Decade Dam Failures Series Part III

Moderator – Clint Brown, Engineering Analytics

Thomson Canal Embankment Failure of 2012

Eric Gross, Federal Energy Regulatory Commission

Paul Kokoszka, Federal Energy Regulatory Commission

Impacts of a Slow Moving Hurricane: Agnes and the Breach of Lake Barcroft Dam

Paul Risher, HDR

Santa Clara Dam: The Hole Problem

Everett Taylor, P.E., Utah Division of Water Rights

3:30 PM – 5:00 PM

Session 37 – Managing Rules And Regulations For Real Results

Moderator – William McKercher, MS Department of Environmental Quality

Is Enforcement Possible? An Ohio Success Story

Mia Kannik, Dena Barnhouse, and Cindy Frazzini, OH Department of Natural Resources

WAIT!, I own a dam? And Regulatory is Filing a Lawsuit?!

James Guistina, Bergmann

Incorporating Dam Inundation Risk within a FEMA RiskMAP Project: A Pilot Study

Tiffany Coleman, STARR II / Stantec Consulting Services, Inc.; and Regina Majercak, Federal Emergency Management Agency

Agenda



3:30 PM – 5:00 PM

Session 38 – Top Tips And Tools In Construction Management

Moderator – Mark Rothbauer, Nicholson Construction

Leveraging Construction Manager at Risk for Efficient Dam Safety Portfolio Delivery

Chad Davis, HDR; and Eric Shafer, P.E., Jacob Bench, P.E., and James Hilovsky, P.E., OH Department of Natural Resources

Reducing Risk, Schedule and Costs Via Construction Manager at Risk Delivery at Hargus Lake Dam

Pete Logsdon and Chad Davis, P.E., HDR; Eric Shafer, P.E., OH Department of Natural Resources; Brian Toombs, P.E., Schnabel Engineering; and Michael Garver, The Ruhlin Company

Case Studies in Construction Quality Control / Quality Assurance Methods for Seepage Barrier (Cutoff) Walls

Joseph Kula, Conrad Ginther, P.E., Jamey Rosen, P.G., John Barrett, P.E., Geosyntec Consultants; and Scottie Barrentine, P.E., Tennessee Valley Authority

THURSDAY, SEPTEMBER 22

7:30 AM – 8:00 AM

Field Trips Check-in

8:00 AM

Field Trips Depart – TBA

8:00 AM – 8:30 AM

Workshops Check-in

8:30 AM – 12:30 PM

Workshop 1: Two-Phase Flow Tailings Dam Breach Modeling

Karen O'Brien and Noemi Gonzalez Ramirez, and Jimmy S. O'Brien, FLO-2D Software/Riada Engineering

8:30 AM – 5:00 PM

Workshop 2: Write Right

John Philip Bachner, Bachner Communications, Inc.

8:30 AM – 5:00 PM

Workshop 3: The Development of Dam Safety Technology and Governance Systems in Response to Major Dam Safety Incidents and Failures

Keith Ferguson, HDR

HEARTHSTONE DAM / AUGUSTA COUNTY, VIRGINIA

VLWA Dam Safety Committee Dam Award, Best Major Construction or Rehabilitation Project



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Inspections & Evaluations / Operations and Maintenance Plans & Support

New Dam Design / Potential Failure Modes & Risk Analysis

Construction & Contractor Support Services / Planning & Permitting Services

Emergency Action Plans / Rehabilitation & Upgrades

Get in touch: dams-levees@schnabel-eng.com



Build Better. Together.

Poster-Lightning Talks



Project Execution Risk vs Infrastructure Performance Risk: A Critical Distinction for Dam Safety

Derek Morley, Geosyntec Consultants; and Brian Hubel, P.E., G.E., US Army Corps of Engineers

Alternative Methods to Alternative Selection

Jason Boomer and Jennifer Williams, P.E., AECOM; and Brian Francis, P.E., US Army Corps of Engineers

Considerations for Addressing Floodplain Management for Dam Rehabilitation or Removal Projects

Edward G. Beadenkopf and Diana Castro, P.E., CFM, Atkins North America

Resilience of Dam Systems

Jenn Richkus, Sean Cavanaugh, and Leah Balkin, MITRE

Remote Underwater Surveys and Inspections: Exceeding Regulatory Requirements for Safety of Water Power Projects

Dusty Myers, Eagle Creek Renewable Energy; and Kristin Rotella, ASI Marine

DFIC Gate Structures – Snatched from Failure

Travis Ford, HDR; and Janine Ninive

Dam Breach Modeling and Fly Fishing Along the Trail of Lewis And Clark

Kevin Ruswick, Schnabel Engineering; and Dustin Kaste, P.E., North Western Energy

Potential Applications of Forecast Informed Reservoir Operations (FIRO) to Enhance Integrated Water Management

Roger Putty and Michael Cornelius, P.G., GEI

Uncertainty in Predicting Emergency Action Plans from Dam Failure

Al Soud, Wood

North Reservoir Dam Improvements – Rehabilitation of a High-Hazard Dam at Full Pool

Pete Nix, Tetra Tech

Dam Design Re-valuation: Changes Methods, Data Availability, and Models

Mark Schwartz, RIZZO

One Size Does Not Fit All – Evaluating Dam Breach Parameters for Small Urban Distribution Reservoirs

Jason Zhou and Priyanka K. Jain, P.E., East Bay Municipal Utility District

Dirty Job: Court Street Dam Gate Chamber Cleaning

Jeff Blass, G. Michael McIntyre, P.E., and Richard Walker, P.E., AECOM; and Roger Gural, PMP, New York Power Authority

Modification of Howard Prairie Dam

Brandt Demars, Bureau of Reclamation

Leveraging Advanced Digital Modeling and AI Analytics for Arch Dam and Concrete Spillway Condition Assessments

Joshua Fowler, Niricson Software, Inc.

Seepage-Induced Upgrading on Drainage System in Miraflores Dam

Johnatan Ramos-Rivera, Camilo A. Cardona Villa, and Daniel E Toscano Patino, Empresas Públicas de Medellín (EPM)

Comparing Unit Hydrograph and Rain-on-Grid Hydraulic Modeling for Hydraulic Adequacy Determinations of Dams

Alexander Wallen, Pablo Gonzale-Quesada, and Emily Schwartz, Black and Veatch, Inc.

Watershed Planning for the Rehabilitation of Beaver Creek 1: a Concerted Effort

J Ryan Collins, Schnabel Engineering; Mathew Lyons, P.E., USDA; and Victoria Fort, P.E., Rivanna Water and Sewer Authority

To the Tune of a Piano-Key: Analysis of Alternatives for Curtis Dam and Hydraulic Design of a Piano-Key Spillway

Seth Thompson, Chad Hoover, P.E., and Paul Schweiger, P.E., Gannett Fleming, Inc.; Anthony Nokovich, P.E., Pennsylvania American Water Compan; and Brian Crookston, Ph.D., P.E., Utah State University

Development and Assessment of Mesh in Dam Breach Modeling Studies using HEC-RAS

P.D.P.O. Peramuna, and S. DeSilva, Ph.D., B.Sc. Eng., Royal Melbourne Institute of Technology; N.G.P.B. Neluwala, Ph.D., M.Eng., B.Sc. Eng., and K.K. Wijesundara, Ph.D., M. Eng., BSc Eng., University of Peradeniya; and S. Venkat

Flood Detention Reservoirs: A New Wave of Dam Construction in the United Kingdom

Alan J. Brown and Andy Courtnadge, Jacobs

Assessment Displacement Of Capanda Dam Under Hydrostatic Loads Using Diana Finite Element Model

Arlon Andre, Hermenegildo Dala, and Mariano Peliganga, LESRA

Larger than Maryland: Site-Specific PMP & PMF for a 14,000-Square Mile River Basin

Patrick Miles, Freese and Nichols, Inc.; and Bill Kappel Applied Weather Associates

Applicability of the Bayesian Dynamic Linear Model Method In Dam Behaviour Analysis and Comparison With the HST Method

Patrice Côté, Vincent Ro, and Benjamin Miquel, Hydro-Québec; and Arnaud Meynadier, Dep. of Civil, Geological and Mining Engineering, Polytechnique Montréal

Recent Updates of the Web-based Decision Support System for Water Infrastructural Security (DSS-WISE Lite)

Mohammad Al-Hamdan and Marcus McGrath – National Center for Computational Hydroscience and Engineering (NCCHE), University of Mississippi; and Paul Smith, Nuttita Pophet

Flood Awareness Presentations for Seniors, Northern Virginia, 2015-2019

Charles E. Karpowicz, Water Resources Management of Virginia

Poster-Lightning Talks



Alternative Delivery Methods – Lyman Lake Spillway
Jeremy Best and Derek Humphries, Phillips & Jordan, Inc.

Performance of a Test Levee Slope using Bio-Engineered Stabilization on High Plasticity Clay
Amber Spears, Avipriyo Chakraborty, Omer Alzaghoul, Mohammad Sadik Khan, Ph.D., P.E., and Robert W. Whalin, Jackson State University

Tailings Dam Safety Concerns and Lessons Learned after Brumadinho Dam Failure
Cagri Cinkilic, Juan Gutierrez, P.E., and Paul C. Rizzo, P.E., RIZZO International, Inc.

Have Questions?

Review the FAQs on pages 27-28 to find the answers to some of our most commonly received questions or visit:

Damsafety.org/DS22FAQ

or contact ASDSO directly by calling

859.550.2788 or emailing

info@damsafety.org.



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Below are a few frequently asked questions regarding Dam Safety 2022. If you have a question and don't see it listed below, please contact ASDSO via email or call our office at 859.550.2788.

Will the conference be in-person or virtual?

Dam Safety 2022 will be in-person! However, for those unable to be in Baltimore we will offer Dam Safety On-Demand. All sessions will be recorded and provided On-Demand starting October 10 with access for up-to six months. In addition, all attendees who are able to join us in Baltimore will also have access to On-Demand content following the conference, so attendees won't have to miss a single session.

What does On-Demand mean?

Dam Safety On-Demand will provide a central website for all content delivered in Baltimore at Dam Safety 2022 (General Sessions, Concurrent Sessions, and Poster-Lightning Talks). Those with access to the On-Demand site will have access to all content 24/7 until from October 10, 2022 until April 10, 2023.

What is the conference venue?

All on-site conference activities will be held at the Baltimore Convention Center unless otherwise noted. Typical off-site events include the conference kick-off and field trips. The Conference Kick-off will be held at the National Aquarium at 501 E Pratt St, Baltimore, MD. Field trips will occur off-site, but registrants will meet at the Baltimore Convention Center. Separate registration is required for these events.

What COVID-19 precautions will ASDSO be taking?

ASDSO is staying in constant communication with the Baltimore Convention Center to ensure all conference activities are being conducted in the safest possible manner and are in alignment with federal, state, and local guidelines. ASDSO, the Baltimore Convention Center, and ASDSO designated hotels will closely follow these protocols, along with national, state, and local guidance, in an effort to prioritize the health and safety of our attendees. We highly encourage all attendees to review all local protocols.

How do I register for the conference?

Registering for Dam Safety 2022 is simple, and you can register in one of two convenient ways - online at DamSafety.org through the ASDSO Portal (credit card payments only), or you can complete the registration form and email it to ASDSO or mail to ASDSO 239 S. Limestone, Lexington, KY, 40508. Registration will open in June of 2022.

What do the conference fees include?

All full conference registrations (member, non-member, student, and honorary) include admission to all technical sessions, the exhibit show, and all catered events; a digital copy of the conference proceedings; and access to Dam Safety 2022 On-Demand. Guest and Exhibit Booth Staff registrations include admission to the exhibit show and all catered events. The Guest registration option is for use by a registered attendee's spouse/partner or family member and is not intended for use by a co-worker or another industry professional. One-day registrations include admission to technical sessions, catered events, and the exhibit show.

Can I join ASDSO and save on my registration fee?

Yes, if you are not currently an ASDSO member, save money and receive full ASDSO membership benefits for one year by including your membership dues with your conference fee payment. Explore all ASDSO membership categories to see which one is best for you. If you are unsure of your membership status, please contact ASDSO via email at info@damsafety.org or call 859.550.2788.

How soon should I make my hotel reservation?

As soon as possible! Rooms are being held for Dam Safety 2022 attendees and will sell out before the conference. There will be many events held in Baltimore during the week of the conference. Attendees should reserve their rooms early. Reservation requests made after the cut-off dates will not be eligible for the special ASDSO group rate. To make your reservations online, simply visit the hotel information page.

How long will I be able to access Dam Safety On-Demand content?

Dam Safety On-Demand content will open October 10, 2022, and be available until April 10, 2023.

Can I share Dam Safety On-Demand with others?

No, Dam Safety On-Demand is only available for the registered individual. Each Dam Safety 2022 registrant will have a unique login and only one session may be active at a time.

Will I receive PDH credit for Dam Safety On-Demand content?

In most cases, yes. New York credit is not available for Dam Safety 2022 content. Only the individual whose name is on the registration form is eligible for PDH credit.

What is the deadline to sign up for Dam Safety On-Demand?

You can register for Dam Safety On-Demand at any time; however, the content will not be available after April 10, 2023. The sooner you register, the more time you will have to enjoy the content.

Can I wait until the conference to sign up for workshops or extra activities?

There is a chance conference workshop and extra activities will fill before the start of the conference, so advance registration is encouraged.

Can I pay for extra activities separately?

Yes, if you need to pay for items separately, or with different forms of payment, you may do so. (For example, if your organization pays for the full conference registration, you can pay for the extra events with a personal card).

Does ASDSO offer early registration discounts?

Yes. Early registration discounts apply to all registrations (regardless of Form of Payment) received by August 27, 2022. After August 27, a \$100 late fee is charged for full conference registrations and \$50 is charged for Exhibit Booth Staff and One-day registrations.

What forms of payment are accepted?

ASDSO accepts checks, credit cards, and government agency purchase orders. A copy of the purchase order with billing instructions must accompany the registration form if payment is to be processed by a government purchase order.

What are the conference cancellation and refund policies?

Please notify ASDSO as soon as possible if you must cancel your registration. Fees that have already been paid may either be refunded or transferred to another attendee. To receive a refund, a notice of cancellation must be submitted to ASDSO by the end of business on September 2, 2022. All refunds are subject to a \$100 processing fee, including workshops. After September 2, 2022 registration fees are not refundable.

If I cannot attend due to COVID restrictions in my state/country, will I receive a refund?

Yes, if your state/country has restrictions on traveling to Baltimore, MD due to COVID-related issues, ASDSO will offer a refund.

Which meals are included with my registration?

Full conference, Guest, and Exhibit Booth Staff registrations include admission to continental breakfasts and hosted lunches on Monday, September 19, Tuesday, September 20, and Wednesday, September 21. Beverage breaks are provided on Monday, Tuesday, and Wednesday, and receptions with light hors d'oeuvres are provided on Monday, September 19 and Tuesday, September 20. One-day registrations include admission to the catered events for that day.

What if I have a special need (ADA, dietary, or other)?

Contact ASDSO at (859) 550-2788 or info@damsafety.org to discuss arrangements.

What if I don't want to receive communications from exhibitors and sponsors?

Like most conferences, ASDSO does allow exhibitors and sponsors to showcase their conference participation to attendees. If you do not want to have your contact information shared with conference exhibitors and sponsors please visit the ASDSO Portal and opt-out of ASDSO Partner Announcements. This will opt you out of all future partner announcements for all conferences. To access the Opt-out area, go to your Portal, Click on "My Profile," then "Personal Info" where you can opt-out. Exhibitors and sponsors are provided your contact information to use on a one-time basis to highlight their conference participation both two weeks before and immediately after the conference. If you feel an exhibitor or sponsor is not using this benefit properly, please contact ASDSO.

What is the best way to get to the conference from the airport?

Attendees can get a taxi, Uber, or Lyft from the airport to the Baltimore Convention Center or their downtown hotel.

How much is parking in Baltimore?

Parking rates throughout Baltimore vary. Please check with your hotel for details on parking costs.

How do exhibitors & sponsors register?

If you have signed up to be an exhibitor or sponsor, your company receives a full conference registration as part of its package. Registration discount codes will be sent to the company exhibit/sponsor contact. All exhibit and sponsor registrations may be completed at DamSafety.org through the ASDSO Portal or on the Dam Safety 2022 registration form (check prepaid exhibitor/sponsor box). If you are the company contact and did not receive a code, please email Brittany Lewis.

I am a speaker, do I need to register?

Yes, all attendees must complete a registration either online or by form.

DAM SAFETY 2022 REGISTRATION FORM

Please email the completed form to info@damsafety.org. You will receive a registration confirmation via email. Convenient online registration is also available by logging into the ASDSO Portal at DamSafety.org. Please review the conference cancellation and privacy policy online at DamSafety.org. A cancellation fee of \$100 will be applied to all refunds requested prior to September 2, 2022. No refunds will be given after September 2, 2022. If you are bringing a group of 15 or more individuals please use the group registration form at DamSafety.org/DS22Reg.

1. PARTICIPANT INFORMATION

Name: _____

First Name for Badge: _____

Title: _____ Date of Birth: ____/____/____

Organization: _____

Address: _____

City: _____ State: _____ Zip: _____

Work Phone: _____ Cell Phone: _____

Email: _____

Shipping Address: _____

If different from above. Please enter the shipping address you wish to use for Dam Safety 2022 conference related materials only. The address cannot be a PO Box and will only be used internally for shipping purposes if needed.

2. FEES (Mark appropriate fees and total) By Aug. 27 After Aug. 27 Amount

Full Registration (Please select either In-person or On-Demand)

In-Person (with On-Demand access) On-Demand Only

ASDSO Member \$940 \$1,040 _____

Non-Member \$1,095 \$1,195 _____

Honorary Member \$125 \$125 _____

Student (eligibility guidelines apply) \$0 \$0 _____

Single Day Rate

ASDSO Member \$525/day \$575/day _____

Monday (9/19) Tuesday (9/20) Wednesday (9/21)

Non-Member \$680/day \$730/day _____

Monday (9/19) Tuesday (9/20) Wednesday (9/21)

Guest Registration \$125 \$125 _____

Guest Name: _____ Guest Cell Phone: _____

Guest City: _____ Guest State: _____

Exhibitor/Sponsor

Pre-paid Sponsor or Exhibitor \$0 \$0 _____

Exhibit Booth Staff (Exhibit Hall access only) \$300 \$350 _____

Extra Activities

9/18 Sunday Night Kickoff Event:
National Aquarium \$95 _____

9/22 Workshop: Two-Phase Flow Tailings Dam Breach
Modeling (Half Day) \$200 _____

9/22 Workshop: Write Right (Full Day) \$300 _____

9/22 Workshop: The Development of Dam Safety
Technology and Governance Systems in Response to
Major Dam Safety Incidents and Failures (Full Day) \$300 _____

9/22 Field Trip: C&O Dam 5 (Full Day) \$95 _____

9/22 Field Trip: Potomac Levee (Full Day) \$95 _____

Fees Total \$ _____

3. ASDSO MEMBERSHIP

If you are not yet an ASDSO member, join now and receive the member registration rate!

Individual \$110

Government Individual \$55

Organizational \$400

*Govt or Private

Organizational Employee \$55

*Organization must be a member

Retired \$55

Membership Total \$ _____

4. POLICIES AND PROCEDURES

I have read and understand the Dam Safety 2022 policies and procedures at www.DamSafety.org/DS22PP

Initials _____

5. FORM OF PAYMENT

Total Payment \$ _____

Check Enclosed

Govt. Purchase Order Enclosed

Credit Card:
MC/Visa/AMEX/Discover

Card Number: _____

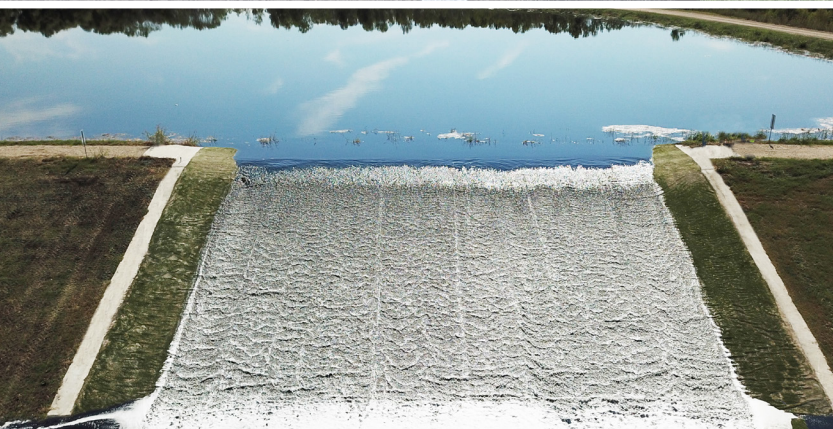
Print Name on Card: _____

CVV: _____ Expiration Date: _____

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the Village Creek
Dam Spillway!

Benefits over Traditional Revetment Systems:

Excellent hydraulic performance. **50+ years of functional longevity.** **Less costly construction.**
Rapid, low-impact and scalable construction. **Minimal long-term maintenance.** **Natural aesthetics.**