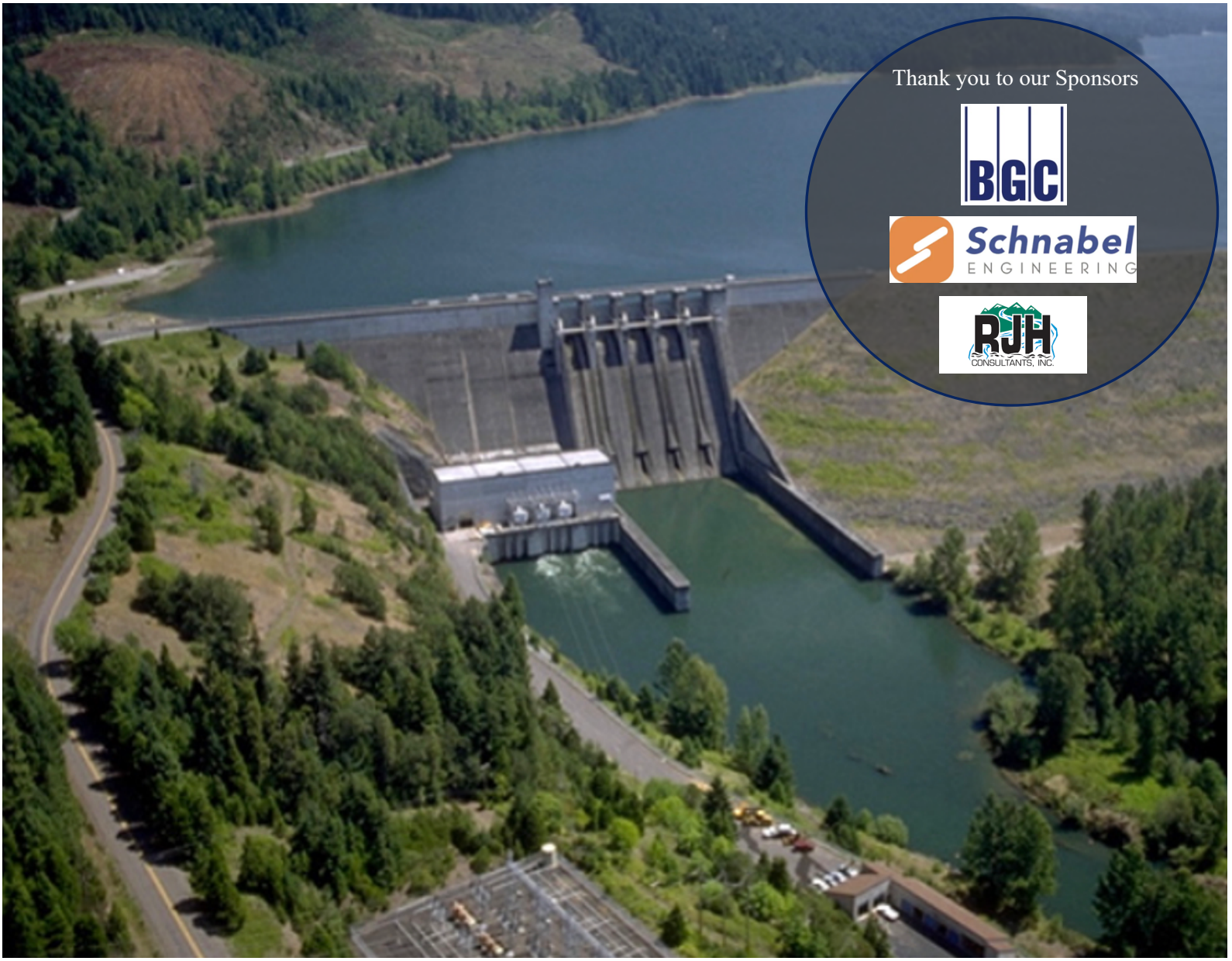
AEG RISK ASSESSMENT FOR DAM AND LEVEE FOUNDATIONS WORKSHOP

NOVEMBER 4-6, 2025 | DENVER MARRIOTT WEST, GOLDEN, CO

WORKSHOP PROGRAM

Association of Environmental & Engineering Geologists



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ON THE COVER
Hills creek dam, Oregon (USACE)

Workshop will focus on Risk Informed Decision Making (RIDM) process in managing dam and levee safety programs.

AEG is proud to host this unique workshop that focuses on the role and contribution of engineering geologists and geotechnical engineers in the Risk Informed Decision Making (RIDM) process in managing dam and levee safety programs.

In today's world, effective risk management is paramount. This workshop directly addresses the challenges you face in identifying and communicating geological potential failure modes to Risk Assessment (RA) teams. You'll gain a substantial understanding of RA methodologies and their practical implementation in assessing the integrity of dam and levee foundations.

The workshop offers a rare opportunity to hear directly from recognized leaders in the dams and levees geotechnical profession and to interact with them through discussions and evening activities. These individuals are shaping the future of dam and levee safety.

Here's a glimpse of what you'll experience:

- Day One: We'll introduce several Risk-Informed Dam and Levee Safety Program frameworks, highlighting the central role of the geo-professionals in ensuring their success. Discover how to effectively contribute to a comprehensive risk management strategy.
- Day Two: We'll delve deeper into the practical application of risk assessment with interactive exercises designed to build your confidence and competence in SQRA techniques. You'll leave with tangible skills you can implement immediately.
- Day Three: Real-world case studies will showcase successful applications of risk assessment, followed by an invaluable opportunity to hear directly from dam safety experts on their vision for the future of risk assessment and the vital contribution of geo-professionals.

We extend our sincere gratitude to our dedicated planning committee, esteemed speakers, and valued sponsors for their unwavering commitment to making this Risk Assessment for Dam and Levee Foundations Workshop a resounding success.

We encourage you to fully immerse yourselves in this unique learning environment. Share your experiences, ask questions, and forge lasting connections. This is your opportunity to enhance your expertise, expand your network, and become a driving force in the advancement of dam and levee safety.

Welcome, and we look forward to a productive and rewarding workshop!

Risk Assessment for Dam and Levees Foundations Chairs,
April Fontaine, USACE
Cassandra Wagner, USACE
Hawkins Gagnon, Schnabel Engineering

Remembering Dr. J. David Rogers

Professor of Geology and Geophysics, Missouri University of Science and Technology

We are deeply saddened of the passing of Dr. J. David Rogers. He was a distinguished figure in our industry, and his expertise and dedication were widely admired. Many of us have likely crossed paths with Dr. Rogers during our education and career. His work has had a significant impact on our field, and he will be remembered as a highly respected professor and dedicated professional. As a charter member of the Dams & Levees Technical Working Group, Dr. Rogers played a pivotal role in its formation and ongoing success. He served as Chair of the D&L TWG in previous years and was consistently recognized for his invaluable contributions to our group.

Obituary

Dr. J. David Rogers passed away on August 23, 2025, surrounded by his family. David will be remembered for his love of teaching, his wide range of interests and knowledge, as well as his endearing sense of humor. David was born in West Covina, California on May 16, 1954, one of a few "Jonathans" born at the hospital around the same time. After a couple of days of being called "David" to differentiate him from the rest of the newborns, the name just stuck. David was an Eagle Scout, a multi-sport high school athlete, and his myriad interests ranged from stamp collecting to scale model-building to mountain climbing. At age 16, David created a "life list" of adventures to undertake, none of which included formal post-secondary education. He wanted to scale mountains, fly airplanes, and visit famous places. However, once David found his passion in earth sciences at Mt. San Antonio Community College, he was off and running (and climbing and rafting).

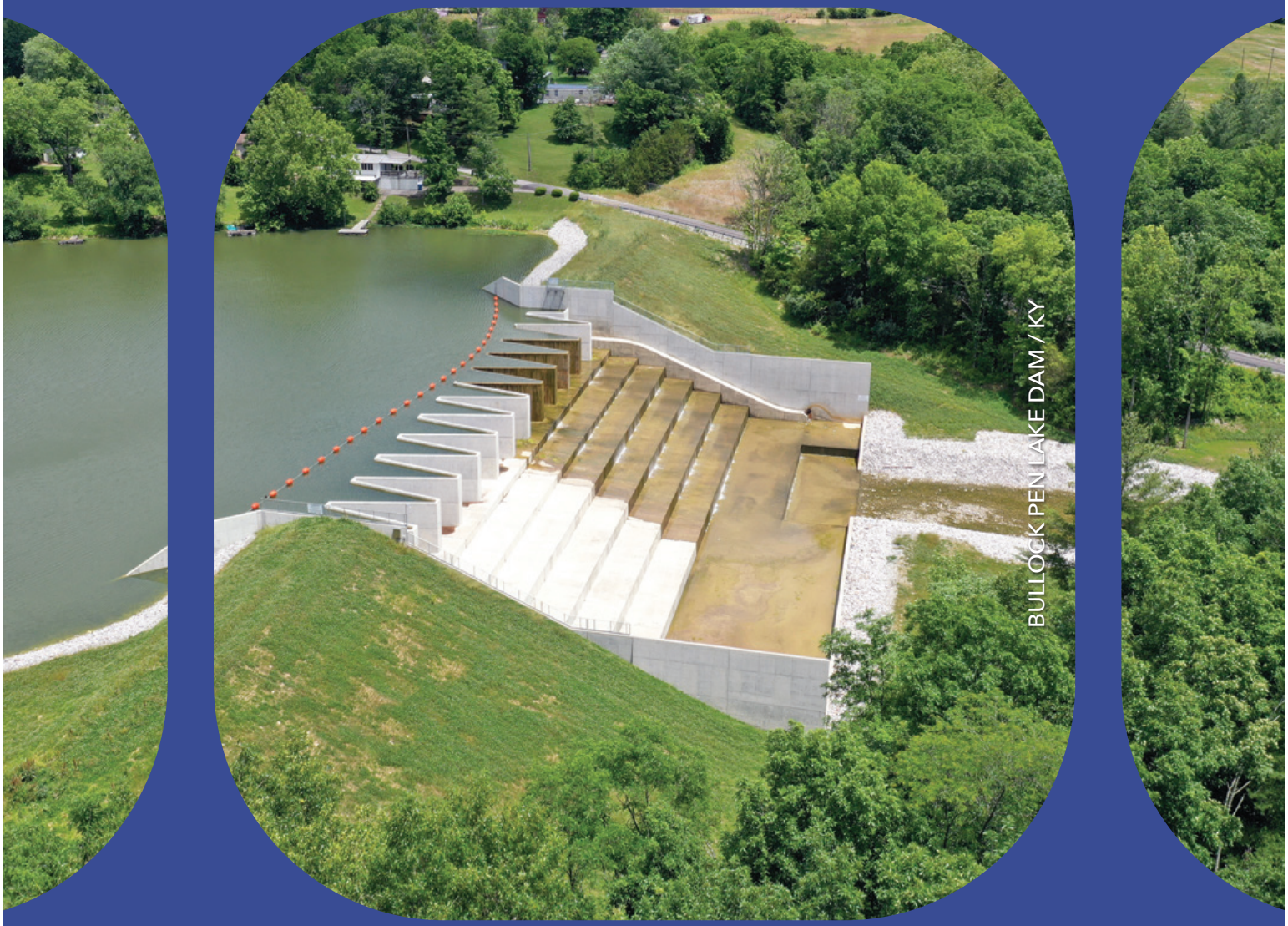
He earned a B.S. in geology from California State Polytechnic University in Pomona (1976), followed by an M.S. in civil engineering (1979), and ultimately a Ph.D. (1982) in geological engineering from the University of California at Berkeley. David ultimately became a registered civil engineer, engineering geologist, and hydrogeologist, as well as a fellow of the Geological Society of America and the American Society of Civil Engineers and Honorary Member of the Association of Environmental & Engineering Geologists. Shortly after completing his Ph.D. at U.C. Berkeley, David married Katrinka Guy, and they settled in nearby Pleasant Hill to raise their growing family.

During the 1980s and '90s, David owned geotechnical consulting firms with offices in the San Francisco Bay Area and Los Angeles. He was frequently the invited speaker at professional associations and conventions, and his reanalysis of the Saint Francis Dam disaster led to a lecture tour across the country with the entire family accompanying him in the minivan. David also served an intelligence officer in the U.S. Navy Reserve, a role that leveraged his technical skills and his deep appreciation of military history. Lieutenant Commander Rogers relished his adventures in the Navy. He developed intelligence training courses, briefed aircrews across the Pacific Ocean and South America, and became a qualified Naval Observer in the P-3C Orion. David's nearly photographic memory served him well as a Navy analyst, and he was a highly sought-after instructor. In the mid-1990s, David left the U.S. Navy Reserve to teach courses at U.C. Berkeley in engineering and environmental geology for civil engineers and planners. In 2001, David accepted the Karl F. Hasselmann Chair of Geological Engineering at the University of Missouri-Rolla (now MS&T). In addition to his appointment in the Department of Geosciences and Geological and Petroleum Engineering at MS&T, David managed the master's degree program in Military Geological Engineering for the U.S. Army Corps of Engineers and created a series of online engineering courses for MS&T. Once again, David's wide range of interests and experiences made his courses popular and engaging.

Outside of the classroom, students on campus and around the world sought his advice on both their studies and their personal lives. During his time in academia, he continued to consult on large geotechnical projects, from the New Orleans levee failures to the Montecito, CA, debris flow. David was a consummate storyteller in and out of the classroom. Over the past thirty years, he appeared in several television documentaries on geological and man-made engineering disasters, most recently the Fox series "American Built." Many of us have turned on the television to see a familiar face illuminating subjects such as the history of the California aqueduct system or the building of Chicago's O'Hare airport. He ultimately accomplished most of the things on his "life list," sharing his amazing experiences with his family, colleagues, and students! In honor of David's outstanding contributions to MS&T and to the thousands of students who both enjoyed and benefited from his mentorship, the J. David Rogers Scholarship has been established to support students in Geological Engineering who embody his spirit of curiosity, engagement, and generosity.

Dr. Rogers and his graduate students at Monument Point overlooking the Grand Canyon after completing a research trip to study landsliding in Surprise Valley.

Dr. Rogers lecturing to his GE 50 class on Precambrian Rhyolite near Graniteville, MO, April 2010



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WORKSHOP SCHEDULE OF EVENTS

DAY 1: NOVEMBER 4, 2025 – Sponsored by Schnabel Engineering

Introduction to Risk-Informed Dam and Levee Safety Programs, and the Instrumental Role of the Geologist within these Programs

Time	Title	Speaker	Room
7:00am	Breakfast, Registration, Mingle		Salon E-H
8:00am	Welcome, Introductions, and Workshop Overview		Salon A-D
8:30am	Background, Purpose, & Current Status of RIDM	Douglas Boyer, FERC	Salon A-D
9:00am	Basis and Results of RA Program (USACE)	Bryant Robbins, USACE	Salon A-D
9:30am	Morning Break		Salon E-H
10:00am	RA 101	Minal Parekh, USACE	Salon A-D
10:45am	Role of Engineering Geologist in RA	Cassandra Wagner, USACE	Salon A-D
11:30am	Lunch		Salon E-H
1:00pm	Biases	Scott Walker, TVA	Salon A-D
1:15pm	PFM's (relative to RA) - Soil Foundations	Austin Reed, USBR	Salon A-D
2:15pm	PFM's (relative to RA) - Other Geohazards (Landslides, Karst, Faulting, etc.)	Scott Walker, TVA	Salon A-D
2:45pm	Afternoon Break		Salon E-H
3:15pm	PFM's (relative to RA) - Rock Foundations	Todd Loar, USACE	Salon A-D
4:15pm	Data Mining	Cassandra Wagner, USACE	Salon A-D
4:45pm	Daily "Wrap-Up", Preparation for Day 2 (i.e. Break-Out Session #1 read-ahead)		Salon A-D
5:00pm	Welcome Reception (appetizers and one drink ticket)		Monarch

AEG Dams and Levees Technical Working Group

This Technical Working Group has the responsibility of reviewing environmental, engineering geology, and geotechnical questions and issues related to dam siting, construction, and safety. The group makes recommendations to the Board for consideration with respect to position or policy statements on dam-related matters. The technical working group activities include:

- Informing our membership of new and emerging technologies
- Improving public awareness of dam safety issues and promoting our profession
- Providing input to local, state, or federal regulations
- Publishing papers and organizing AEG Dam Symposia and Short Courses

If you are interested in joing the Technical Working Group, email the co-chairs, Hawkins Gagnon, jgagnon@schnabel-eng.com or Cassandra Wagner, Cassandra.M.Wagner@usace.army.mil

DAY 2: NOVEMBER 5, 2025 – Sponsored by RJH Consulting

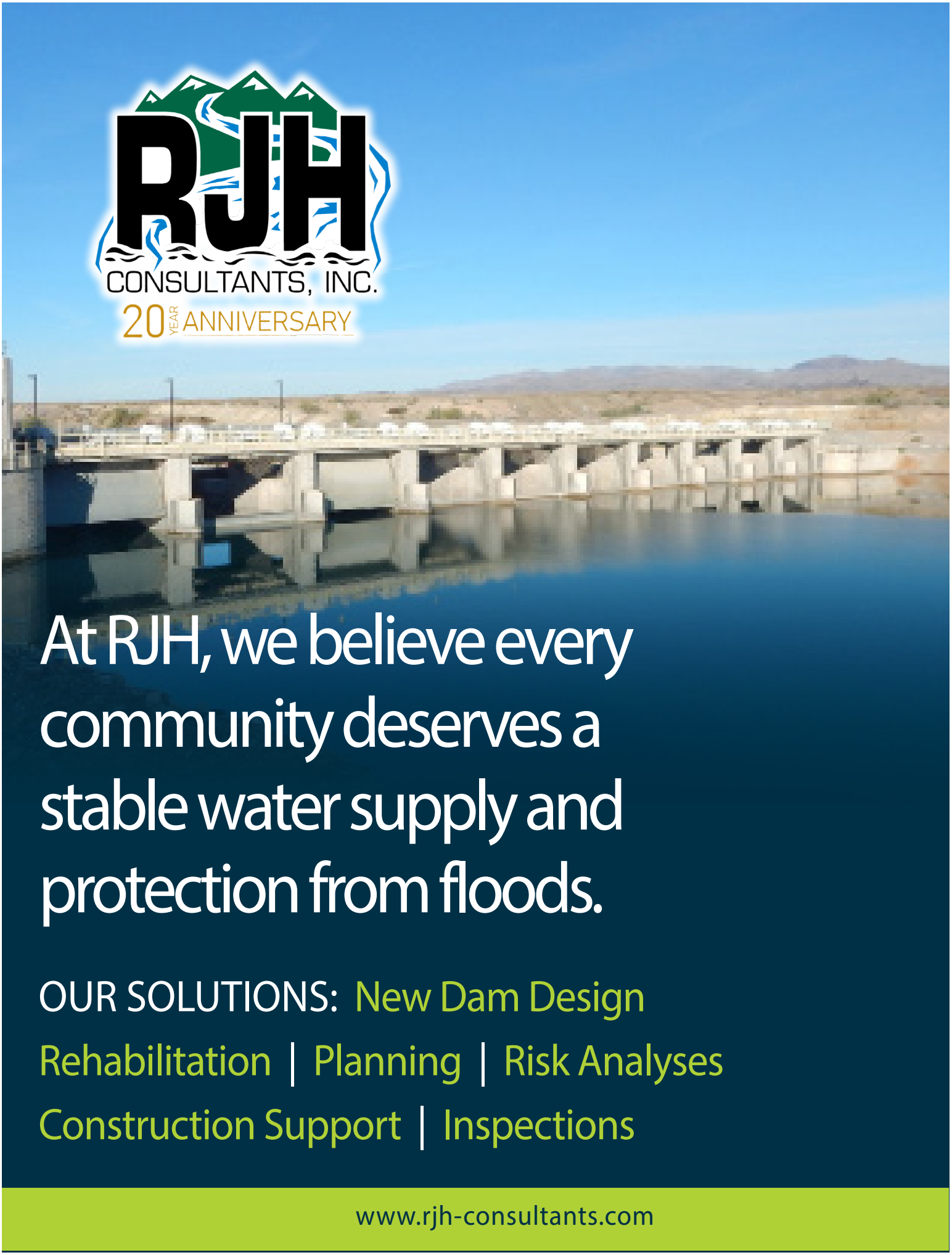
Risk Assessment Instruction and Break-out Activities – Embankment and Concrete Dams

Time	Title	Speaker	Room
7:00am	Breakfast, Registration, Mingle		Salon E-H
8:00am	Introduction of Day Two Agenda, Topics, and Purpose		Salon A-D
8:05am	Scripted SQRA RA Team - Mock SQRA that is pre-scripted to give the attendees a external view into the process of developing a PFM and working through the RA process to ultimately get to a elicitation and team generated risk characterization, including development of likely/less likely factors		Salon A-D
9:10am	AV Watkins - Background, information and RA results	Dennis Hanneman, Bureau of Reclamation	Salon A-D
9:30am	Morning Break		Salon E-H
10:00am	Spillway Failure Modes: Soil and Rock Erosion Mechanics (RA Focused)	Michael George, BGC Engineering	Salon A-D
11:00am	How to interpret investigation results for risk analysis including scoping for new investigations (including geophysics), defining critical questions	Josh Shinpaugh, TVA	Salon A-D
11:45am	Construction PFMs	Scott Walker, TVA	Salon A-D
12:00pm	Lunch		Salon E-H
1:15pm	Break-Out Session #1: Project Background & Supporting Data	Moderated by Cassandra Wagner, USACE	Keystone &Telluride
3:30pm	Afternoon Break		Salon E-H
4:00pm	Break-Out Session #1: Project results and findings	Cassandra Wagner, USACE	Salon A-D
4:30pm	Daily "Wrap-Up"		

DAY 3: NOVEMBER 6, 2025 – Sponsored by BGC Engineering

Time	Title	Speaker	
7:00am	Breakfast, Registration, Mingle		Salon E-H
8:00am	Introduction of Day Three Agenda, Topics, and Purpose		Salon A-D
8:10am	Case Study on FERC RA, start to finish	Hawkins Gagnon, Schnabel Engineering	Salon A-D
9:00am	Panel - Roundtable Fed/State/Consultant/Regulator	Douglas Boyer, John Hunyati, Sharon Schultz, Todd Loar, Minal Parekh, Thomas Terry, Hawkins Gagnon, and Scott Walker	Salon A-D
10:00am	Morning Break		Salon E-H
10:30am	Keys for Success - Go forth and practice!	Todd Loar, USACE	Salon A-D
11:30am	Workshop Conclusions, discussion, open-forum discussion		

Wifi Information - Password: 11AEG25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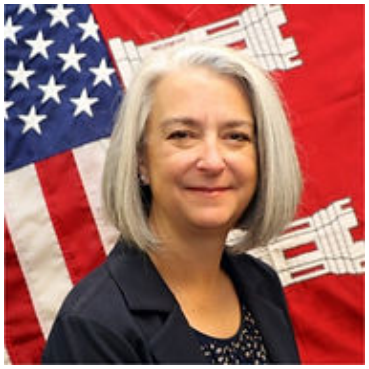

April Fontaine, P.G.
National Geotech Policy Advisor
Headquarters, U.S. Army Corps of Engineers

April Fontaine has nearly 25 years of experience in geology and geotechnical engineering and is currently the National Policy Advisor for Geotechnical Engineering at the U.S. Army Corps of Engineers at their Headquarters, remotely from her home in Sacramento. Ms. Fontaine serves on several Technical Working Groups for the AEG and several committees for the Deep Foundations Institute and has previously led leadership development programs. She is the current Chair for the USACE Landslide Committee and an instructor for several courses internal to the USACE. She has a master's degree from Southwestern College and a bachelor's degree from the University of California, Davis and is a Licensed Professional Geologist in the State of California.

Hawkins Gagnon, P.G., LEG
Associate Geologist
Schnabel Engineering South, P.C.

Hawkins is an Associate Engineering Geologist with Schnabel Engineering. Hawkins is based out of Greensboro, NC, he lives in Hillsborough, NC, and he works on projects across the country. Hawkins specializes in technically challenging geotechnical investigations, pumped storage hydropower projects, and FERC Dam Safety work. Hawkins has served as an Engineering Geology Subject Matter Expert (SME) for four comprehensive assessments under the new FERC Guidelines. Hawkins has served numerous other roles for risk assessments both under the new and old FERC Guidelines. In addition, Hawkins serves as the cochair of AEGs Dams and Levees Technical Working Group.

Cassandra Wagner, P.G.
Chief, Geosciences Branch
United States Army Corp of Engineers

Cassandra Wagner is a registered Professional Geologist and is the Geosciences Branch Chief with the SPD Dam Safety Production Center. She has nearly 14 years of engineering geology experience. Cassie has a B.S. in Geology from the University of Florida and an M.S. in Geological Engineering from Missouri University of Science and Technology. Cassie previously worked as an Engineering Geologist at the Bureau of Reclamation, Technical Service Center, in Denver, CO. Her primary focus has been in Dam Safety, including the development of field investigation programs, risk analysis, site characterization, and design and construction.

BGC Engineering Ad

Douglas Boyer, P.E., CEG
Chief, Risk-Informed Decision-Making Branch, Division of Dam Safety and Inspections
FERC

Doug is a civil engineer and engineering geologist with 35 years of experience in dam engineering and dam safety working for various federal and state agencies and consulting. Doug has prepared, performed, documented, and reviewed geological and geotechnical investigation plans and proposals for small and large dam projects all over the US and in South America. He has prepared, provided input, or reviewed drilling guidelines for the Bureau of Reclamation, US Army Corps of Engineers, and FERC. Doug is a former vice president of USSD and is the current chair of the USSD committee on foundations. He is a former AEG communications director and awardee of the AEG Claire P. Holdredge publication award. Doug has a B.S. in Geological Sciences and a M.S. in Civil Engineering.

Suzi Hess-Brittelle
Chief, Geology Branch, Risk Management Center
USACE

Hawkins Gagnon, P.G., LEG
Associate Geologist
Schnabel Engineering

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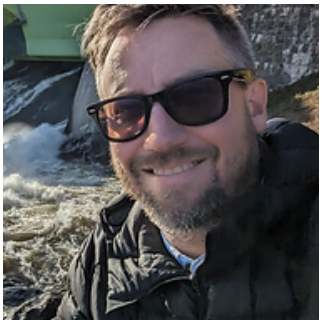
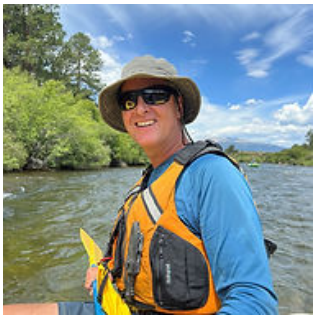


Michael George
Principal Geological Engineer
BGC Engineering

Dr. George is a Principal Geological Engineer with BGC Engineering in Colorado. He has over 20 years of experience specializing in water resources, dam, and spillway engineering with focus on erodibility, scour remediation, rock mechanics, hydraulics, high-resolution remote sensing monitoring, and reliability methods. He has worked as a consulting engineer and researcher in the United States and abroad and has developed methodologies for evaluation of rock mass erodibility, delivered training to FERC, USACE, USSD and ASDSO on scour, and authored over 30 papers on the subject including sections for the recently updated FERC Engineering Guidelines for Arch Dams (2018). Dr. George also serves as co-chair for the European Working Group on Overflowing & Overtopping Erosion for ICOLD.

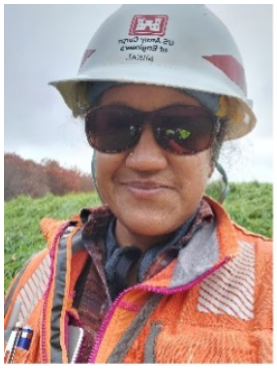
Dennis Hanneman, P.E.
Geotechnical Engineer
Bureau of Reclamation

Dennis Hanneman is a registered professional engineer with more than 30 years of civil and geotechnical engineering experience in private sector consulting and the federal government. He is a technical specialist in the Embankment Dams and Geotechnical Engineering Group of Reclamation's Technical Service Center and is involved with all phases of design, analysis, and construction of embankment dams. He also facilitates dam safety risk analyses, performs independent reviews of designs and risk analyses, and develops training and guidance for evaluation of embankment dams.



Todd Loar
Geological Engineer, Senior Technical Advisor
US Army Corps of Engineers, Risk Management Center (RMC)

Todd Loar is a Senior Geological Engineer at the US Army Corps of Engineers, Risk Management Center in Lakewood, Colorado. He has over 29 years of experience in private and public sectors on projects involving geologic, geotechnical, and foundation engineering assessments and site characterization for dams; tunnels; mining infrastructure and tailing dams; hydrogeologic assessments; and water resources projects within the US and internationally. For the past 10 years he has served as USACE senior technical advisor, subject matter expert, and instructor for the national dam and levee safety program, characterizing project vulnerabilities, applying risk informed decision making to evaluate and prioritize the USACE inventory, support engineering analysis, modifications, and construction for infrastructure improvements and inventory risk reduction. Todd has degrees in geology and geological engineering from University of California, Santa Cruz (BA), and the Colorado School of Mines (MS), respectively, and is an adjunct professor at CSM and CU Boulder.



Minal Parekh, P.E., PhD
Sr Geotechnical Engineer and Training Coordinator
USACE Risk Management Center

Minal is a senior geotechnical engineer with more than 25 years of experience in risk assessment and civil, geotechnical, and environmental engineering. She advises multidisciplinary teams for the risk evaluation, design, and construction of dam and levee projects for USACE as a geotechnical specialist at the Risk Management Center. She facilitates periodic assessments, semiquantitative and quantitative risk analyses, design analysis and reviews, and post-implementation risk evaluations. She is the RMC training coordinator and leads and instructs several risk training modules. Minal completed her Ph.D. Civil Engineering at Colorado School of Mines with a research focus on using nondestructive tools to study the integrity of earthen dams and levees, including a minor in science, technology, and engineering policy. She has field engineering experience with geotechnical investigation, slurry cutoff wall construction, soil-nail wall construction, rock slope stabilization, and tunneling, including writing, reviewing, and referencing geotechnical baseline reports for design, construction, claims evaluation, and forensics. Minal previously worked as a consulting engineer in Denver and Boston. She earned a Master of Science Civil Engineering from Tufts University and a Bachelor of Science Environmental Engineering from Montana Tech.

Austin Reed, P.G.
Engineering Geologist
United States Bureau of Reclamation

Austin Reed is an engineering geologist for the United States Bureau of Reclamation (Reclamation) Technical Service Center in Denver, Colorado where he serves as the principal geologist for multiple Reclamation dams. He has a BA in Geosciences from Franklin and Marshall College and an MA in Earth and Environmental Sciences from Wesleyan University. Prior to joining Reclamation, Mr. Reed worked for AECOM as a project geophysicist and engineering geologist with projects located in over 25 states, Bulgaria, Iraq, and Serbia. His experience includes planning drilling investigations and geophysics surveys, and grout curtain and cutoff wall construction. In his current role, Mr. Reed provides technical expertise for projects in corrective action study, issue evaluation, final design, and construction. He is a Risk Analysis Estimator, and a Comprehensive Review and Technical Response team member for numerous facilities.

Bryant Robbins, P.E., PhD
Acting Director
USACE Risk Management Center

Bryant Robbins is currently the Acting Director for the U.S. Army Corps of Engineers (USACE) Risk Management Center where he leads programs and staff focused on assessing and managing risks for the Corps of Engineers' dams and levees. Prior to working at the Risk Management Center, he spent 10 years as a Research Civil Engineer for the U.S. Army Engineer Research and Development Center (ERDC). Bryant has a Bachelor of Science degree in Civil Engineering from Montana State University, a Master of Science degree in Civil Engineering from Mississippi State University, and a Ph.D. in Civil Engineering from the Colorado School of Mines. He is a registered professional engineer, recent recipient of the ASCE Arthur Casagrande Award, and member of numerous professional organizations and committees.

Joshua Shinpaugh, P.G.
Senior Geologist, Dam Safety
Tennessee Valley Authority

Mr. Shinpaugh serves as Senior Geologist for the Tennessee Valley Authority's Dam Safety's Geotechnics group, supporting the organization's efforts to maintain safe and reliable operations of TVA's 49 dam projects comprised of nearly 150 structures. He leads the design and execution of site investigations, serves as Project Lead for routine and capital projects, and supports the Risk Program as a geology & seismology Subject Matter Expert. He holds a B.S. in Geology from the University of Tennessee – Chattanooga, an M.S. in Geology from North Carolina State University, and is a licensed Professional Geologist with the state of Tennessee. In his prior positions, he served as a Geologist with US Army Corps of Engineers in Savannah, Georgia, and as a Development and Operations Geologist with Chevron's San Joaquin Valley Business Unit in Bakersfield, California.

Scott Walker
Geological Engineer
Tennessee Valley Authority

Scott R. Walker is a geological engineer with the Tennessee Valley Authority in Chattanooga. As a corporate agency of the United States TVA's Dam Safety Program is self-regulated, and Scott currently serves as a member of the Governance & Oversight team. He has over 25 years of professional experience and previously worked for several private consulting firms before joining TVA. He holds licenses as a professional engineer, professional geologist, and certified engineering geologist, and has been a member of AEG since he was an undergraduate at the Colorado School of Mines.

Cassandra Wagner, P.G.
Chief, Geosciences Branch
United States Army Corp of Engineers

Cassandra Wagner is a registered Professional Geologist and is the Geosciences Branch Chief with the SPD Dam Safety Production Center. She has nearly 14 years of engineering geology experience. Cassie has a B.S. in Geology from the University of Florida and an M.S. in Geological Engineering from Missouri University of Science and Technology. Cassie previously worked as an Engineering Geologist at the Bureau of Reclamation, Technical Service Center, in Denver, CO. Her primary focus has been in Dam Safety, including the development of field investigation programs, risk analysis, site characterization, and design and construction.

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