2026 Hydropower Collegiate Competition

U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation

Hydropower and Hydrokinetic Office



2026 Final Event Program | April 27–29, 2026

2026 Spring National Hydropower Association/Midwest Hydro Users Group Regional Meeting

ABOUT THE HYDROPOWER COLLEGIATE COMPETITION

Funded by the U.S. Department of Energy's (DOE's) Hydropower and Hydrokinetic Office (H2O) and administered by the National Laboratory of the Rockies (NLR), the Hydropower Collegiate Competition (HCC) charges interdisciplinary teams of undergraduate and graduate students to develop unique solutions for today's complex hydropower challenges. Participating students gain valuable real-world experience and professional connections that help them jump-start their careers in energy.

Launched in 2022 and now in its fourth year, the HCC aims to build and inspire the next-generation workforce in hydropower by nurturing university relationships and increasing awareness of hydropower; increasing access to hands-on interdisciplinary experiences through curricula development; and broadening student networks.

U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation
Hydropower and Hydrokinetic Office

National Laboratory of the Rockies

NHA National Hydropower Association

Dive into the 2026 Hydropower Collegiate Competition

The HCC culminates at the 2026 Spring National Hydropower Association/Midwest Hydro Users Group Regional Meeting, April 27–April 29, 2026, in Green Bay, Wisconsin.

Following the 2026 competition theme of **low impact hydropower**, students competed in three required challenges and one optional challenge:

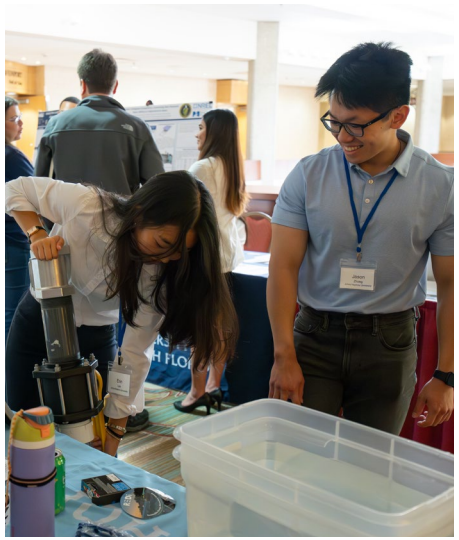
- **Siting Challenge:** Teams evaluated potential sites for a non-powered dam, a pumped storage hydropower facility, or an in-conduit hydropower site that fit the challenge requirements.
- **Design Challenge:** Teams completed a detailed design of a single hydropower concept within their selected site or an overall conceptual design of the full powerhouse.
- **Community Connections Challenge:** Teams created connections among HCC teams, the hydropower industry, students, and local communities.
- **Optional Build and Test Challenge:** Teams built a scaled prototype of their concept and performed a series of tests.

The 2026 HCC teams represent:

- Appalachian State University
- Baylor University
- California Polytechnic State University, San Luis Obispo
- California State University, Fresno
- Colorado School of Mines
- Northern Arizona University
- Purdue University
- Southern Utah University
- Stevens Institute of Technology
- University of California, Riverside
- University of Houston
- University of North Florida
- University of Southern California









HCC Event Schedule | Day 1: Monday, April 27th

SCHEDULE: Page 4 | Page 5

Times (CT)	Community Connections Presentations (Open to the Public): Riverview 2	Siting & Design Challenge Presentations (Closed Q&A; open to industry): Riverview 1	HCC All Team Events & NHA/MHUG Activities Students are Invited to Attend
11:00 am	Northern Arizona University	California Polytechnic State University, San Luis Obispo	
11:30 am	Stevens Institute of Technology	Appalachian State University	
12:15 pm	University of Houston	University of Southern California	
12:45 pm	**Lunch (12:45 pm - 1:15 pm)**		
1:15 pm	Colorado School of Mines	University of North Florida	
1:45 pm	Southern Utah University	University of California, Riverside	
2:30 pm	Purdue University		
3:00 pm	University of California, Riverside	University of Houston	
3:45 pm	California State University Fresno	Southern Utah University	
5:00 pm	**HCC All – Team Kick Off Meeting (Industry is Invited): Riverview 2**		
6:00 pm	**Adjourned – Dinner on Own**		

HCC Event Schedule | Day 2: Tuesday, April 28th

Times (CT)	Community Connections Presentations (Open to the Public): Riverview 2	Siting & Design Challenge Presentations (Closed Q&A; open to industry): Riverview 1	HCC All Team Events & NHA/MHUG Activities Students are Invited to Attend
7:30 am	Bus #1 Drive to Chalk Hill Tour		
9:00 am	Tour Chalk Hill (9:00 am – 10:30 am)	Bus #2 Drive to Chalk Hill Tour (bus to return by 1:30 pm)	
10:30 am	Bus #1 Drive back to Hyatt (10:30 am – 12:00 pm)	Tour Chalk Hill (10:30 am - 12:00 pm)	
12:00 pm	**Lunch (12 pm – 2 pm)**		
1:30 pm			
2:00 pm	University of North Florida	California State University, Fresno	
2:45 pm	University of Southern California	Purdue University	
3:30 pm	California Polytechnic State University, San Luis Obispo	Colorado School of Mines	
4:15 pm	Appalachian State University	Stevens Institute of Technology	
5:00 pm		Northern Arizona University	
5:30 pm	**HCC Faculty Feedback Session: Riverview 2**	**HCC Student Feedback Session: Riverview 1**	
6:00 pm	**National Hydropower Association & Mid-West Hydro Users Group Welcome Reception (near HCC Team Booths)**		
7:00 pm			

HCC Event Schedule | Day 3: Wednesday, April 29th

SCHEDULE: Page 4 | Page 5

Times (CT)	Build & Test Challenge Presentations (Open to the Public): Riverview 2	Build & Test Challenge Presentations (Open to the Public): Riverview 1	HCC All Team Events & NHA/MHUG Activities Students are Invited to Attend
8:00 am	California Polytechnic State University, San Luis Obispo	Southern Utah University	
8:30 am	Break	Stevens Institute of Technology	
9:00 am	Purdue University	University of California, Riverside	
9:30 am	Northern Arizona University	University of North Florida	
10:00 am	California State University, Fresno	University of Southern California	
11:15 am	**Hydropower Collegiate Competition Pre-Award Ceremony (Riverview 2)**		
12:00 pm	**National Hydropower Association & Midwest Hydro Users Group Networking Lunch and HCC Award Ceremony (12:00 pm – 1:00 pm)**		
1:30 pm	**Water Power and Energy Career Expo (1:30 to 4 pm) at Northeast Wisconsin Technical College, Eagle Event Center**		

Please note, start times are inconsistent patterns and in CDT

HCC TEAMS: Page 6 | Page 7 | Page 8 | Page 9

Meet the 2026 Competing Teams

Thirteen teams representing schools in nine states participated in the fourth annual HCC. Through their participation, these teams gained hydropower industry experience, valuable exposure to potential career pathways, and a greater understanding of hydropower's role in America's energy portfolio.





Appalachian State University

The Appalachian State University Hydro Team joined the competition this year, excited to learn more about the hydropower industry and apply their knowledge and skill set to the competition. The team is made up of extremely driven students who are eager to share their work. They hope to apply their learnings from this competition to better the community by bringing a reliable and affordable source of energy for all.



Baylor University

Team URSA is a diverse group of students and faculty across engineering and environmental science who are collaborating to explore opportunities for low impact hydropower near Baylor University. Inspired by previous efforts in the Solar Cup, growing interest in university sustainability initiatives, and a desire to be on the leading edge of emerging technologies that build a better world for all, Team URSA is mobilizing research opportunities, capstone courses, industry partners, and student organizations. The team's vision for America's energy future is deeply collaborative, highly integrative, and rooted in identifying reliable realities.



California Polytechnic State University, San Luis Obispo

The Cal Poly HCC 2026 team is focused on advancing in-conduit hydropower as a scalable renewable energy solution within California's existing water infrastructure. Although this is the first time competing in HCC for each team member, Cal Poly brings a strong legacy to the competition. Previous teams established a Water Power Club on campus, which continues to provide project resources for students. By participating in HCC, the team hopes to contribute to a reliable energy future, and inspire broader encouragement in the hydropower industry.



California State University, Fresno

The Fresno State HCC26 Team deeply believes that a reliable and secure energy future relies on innovative hydropower technologies. The newly formed team sees this competition as a great opportunity to challenge themselves and to apply the knowledge gained here to real-world problems. These students are especially excited to connect with industry experts and to learn from other university teams.



Colorado School of Mines

The Mines Hydropower Team consists of passionate students from a range of engineering and earth science degrees. The team is developing a pumped hydropower concept located in the Carrizo Mountains on the Arizona-New Mexico border within the Navajo Nation. The students are excited to bring their diverse knowledge backgrounds together to create a comprehensive and meaningful conceptual design.



Northern Arizona University

For NAU's HydroJacks, HCC is a great opportunity to gain hands-on experience in renewable energy system design and to better understand the challenges associated with deploying energy technologies at scale. They are especially excited to combine technical design, testing, and outreach efforts to create a solution that contributes to a more reliable energy future.



Purdue University

Purdue University's HCC Team's drive for participating in this competition is their belief that small infrastructure improvements can meaningfully strengthen America's renewable energy portfolio. They envision a future where existing dams are leveraged responsibly to produce reliable power without damaging ecosystems. In addition to sharing their own work, the team is excited to learn about the novel concepts that other schools design, which they are confident will expand their horizon of knowledge.



Southern Utah University

The Southern Utah Hydropower Innovators are an interdisciplinary student team exploring how existing water infrastructure can be upgraded to deliver reliable, low-impact renewable power. The team envisions a secure energy future in which local water users and communities benefit from reliable power generated using established regional sources. They are participating in HCC to extend learning beyond the classroom, collaborate with industry mentors, and engage stakeholders affected by hydropower development.



Stevens Institute of Technology

The Canal Ducks are committed to promoting renewable energy education through outreach activities, industry engagement, and hands-on engineering demonstrations. Team member interests include transportation engineering, sustainability, reliable energy in developing nations, practical renewable energy deployment, and ocean engineering.



University of California, Riverside

The UC Riverside team is excited to be competing in the 2026 competition and is especially interested in exploring in-conduit hydropower as a method of generating energy in existing infrastructure as well as the decision processes that go into site selection. The intersection of multiple industries that allows for the construction, funding, and licensing of hydropower facilities is of particular interest to these students. The team holds a belief that hydropower development should not come at the cost of environmental safety, and that measures should be taken to ensure that hydropower facilities operate reliably and efficiently.



University of Houston

The UH Rapids return for the fourth year with renewed energy toward the design of a hydroelectric generation station on the Conroe Dam. The team has learned important design lessons from prior competitions, which they are excited to incorporate into this year's competition. These students firmly believe that including energy generation in water systems in Texas, including non-powered dams, is critical for resilience of the state against extreme weather events that Texans are increasingly experiencing.



University of North Florida

The HydroSwoop team brings previous years' experience focusing on different types of energy production to the 2026 challenge as they focus on recovering often overlooked "wasted" energy from pressure reduction points in municipal pipelines. They believe that reclaiming lost energy is possible in a noninvasive way. The team is most excited about validating their assumptions, refining their subsystems architecture, and engaging with industry professionals who operate at the intersection of infrastructure and energy creation.



University of Southern California

The USC HCC team is deeply committed to advancing America's energy future and is excited to contribute to that mission through their pumped storage hydropower conceptual design project. Although this marks the first deep dive into hydropower for many team members, they are energized by the opportunity to approach this field with fresh perspectives. The team represents a diverse range of disciplines but is united by one shared purpose: a passion for reliability and a commitment to building a brighter, more resilient future.

Meet the 2026 Competition Reviewers
HCC Community Connections Challenge Judges



Laura Batt
MYSTIC AQUARIUM

Laura Batt, director of STEM programs for Mystic Aquarium, has more than 20 years of experience in STEM curriculum design and pedagogy. She has created STEM content and delivered professional development workshops for hundreds of schools, Boys & Girls Clubs, YMCAs, and other youth-serving organizations. Batt manages Mystic Aquarium's national STEM mentoring program, which brings together youth and mentors for fun, hands-on STEM activities with a focus on conservation. Batt also produces multimedia STEM content for Mystic Aquarium's conservation, education, and research programs. A former middle school math and science teacher, Batt holds an Indiana teaching license in physics for grades 5–12.



Remy Pangle
REPOWERING SCHOOLS

Remy Pangle is the executive director for REpS and also holds a position as the managing director of the Center for the Advancement of Sustainable Energy at James Madison University (CASE/JMU). Mrs. Pangle has over 10 years of experience in the wind industry and has led the Wind for Schools program in Virginia since 2010. In her current role as Managing Director of CASE/JMU, Mrs. Pangle works mainly with educators and school administrators to bring meaningful renewable energy education into the classroom. Mrs. Pangle earned her Bachelor of Science in integrated science and technology with an emphasis on environmental science from James Madison University and her Master of Science in oceanography from the University of Maine. Mrs. Pangle was the 2011 recipient of the Wind Repowering America Outstanding Young Advocate Award and the 2013 recipient of the JMU Woman of Distinction Award, among other accolades.

Meet the 2026 Competition Reviewers
HCC Design, Technical, and Build & Test Challenges Judges



Scott DeNeale
OAK RIDGE NATIONAL LABORATORY

Scott DeNeale is a water resources engineer in Oak Ridge National Laboratory's Environmental Sciences Division, conducting a wide variety of applied research projects at the largest science and energy national laboratory in the United States. He has specialized experience in hydrologic and hydraulic modeling, water resources engineering, environmental and economic data analysis, and project management with application to water-energy systems. Scott joined Oak Ridge in March 2013 and is currently involved in hydropower and pumped storage hydropower research, hydropower technology and cost modeling research, and precipitation and flood modeling.



Herbie Johnson
COLLIERS ENGINEERING

As a seasoned energy executive and engineer, Herbie brings over 30 years of leadership in power generation—with deep expertise spanning hydroelectric operations, sustainable energy project development, and federal energy strategy. Currently, he serves as a business development manager at Colliers Engineering & Design, guiding U.S. clients through the evolving energy landscape with a focus on investment incentives and long-term infrastructure planning. Previously, Herbie led technology initiatives at the U.S. Department of Energy, shaping national strategies for hydropower modernization and cybersecurity. Earlier, he managed a capital modernization program at Southern Company, overseeing operations across a 30-plant 2,900-megawatt hydro fleet while integrating new energy technologies, including microgrids and solar.



Surabhi Karambelkar
LOW IMPACT HYDROPOWER INSTITUTE

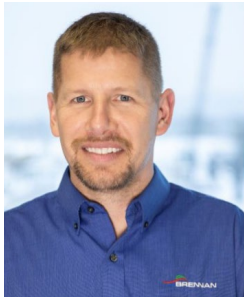
Surabhi Karambelkar is the policy director of the Low Impact Hydropower Institute (LIHI), a national nonprofit organization dedicated to reducing the impacts of hydropower generation and supporting projects that prioritize environmental, recreational, historical, and cultural resource protection. Surabhi's work focuses on driving compliance and voluntary energy markets toward prioritizing and incentivizing Low Impact Certified® hydropower projects that deliver benefits for both people and the planet. Surabhi leads high-impact research and policy efforts related to sustainable hydropower, helps draft science-based guidance, and builds strategic partnership and coalitions to advance the integration of social and environmental benefits in hydropower operations and incentive programs. She has extensive experience in policy advocacy, the water-energy nexus, and public interest representation in utility proceedings. Surabhi has successfully advocated energy and climate policies, including passing renewable portfolio standards that prioritize socio-environmentally responsible hydropower. She has also advanced progressive utility policies related to customer bill affordability, access to high-speed broadband, and eliminating digital discrimination. Prior to joining LIHI, Surabhi worked on water and energy projects in South Asia and Latin America and most recently spearheaded the Policy Section of the Communications and Water Policy Branch of the Public Advocates Office at the California Public Utilities Commission. She holds a Ph.D. from the University of Arizona and an M.S. from University College London.

Meet the 2026 Competition Reviewers
HCC Community Connections Challenge Judges



Dave Pahl
KAUKAUNA UTILITIES

Dave Pahl is the manager of generation and substations for Kaukauna Utilities. There, he focuses on improving the preventive maintenance program for substations. He ensures the maintenance plans exceed recommendations of NETA and consistently increases system reliability. Dave is a project manager, team leader, energy advocate, and proponent of automation through the adoption of emerging technology. Beginning his career as an electrical engineer and field service manager, Dave has held progressive roles requiring the ability to communicate with customers, contractors, government representatives, and senior leadership stakeholders. He has served on emergency response and strategic planning committees and supported technology integration to improve system reliability and efficiency. Outside of work, Dave enjoys spending time with his family and friends, whether it is through coaching, hiking, biking, or volunteering at community events.



Rory Alsberg
J.F. BRENNAN

Rory Alsberg is the senior business development manager for dam construction with J.F. Brennan Company Inc., based out of La Crosse, Wisconsin. Rory began his hydroelectric career more than 20 years ago in operations management of projects. Since then, he has been involved with all aspects of dams, including operations, construction and repairs, regulatory and compliance, and development. Rory utilizes his own experience and knowledge of the hydroelectric industry to strengthen relationships with existing clients and find new clients and leads to bring to J.F. Brennan. His experience from both the owner and service provider perspectives is unique and valuable.



Shannon Ames
LOW IMPACT HYDROPOWER INSTITUTE

Shannon Ames is executive director of the Low Impact Hydropower Institute (LIHI), a national nonprofit whose certification program is the certification standard for low impact hydropower, operating at the intersection of the industry and community. LIHI's certification helps responsible facilities access clean energy markets and demonstrate that hydropower can put people and the environment first. Shannon came to hydropower from the policy side, playing a key role in passing renewable energy portfolio, greenhouse gas, and environmental legislation at the state and federal levels. During her tenure at LIHI she has reviewed applications for over 300 hydropower facilities across the United States. She is passionate about incentivizing hydropower to be the best it can be, which includes meaningful engagement with communities. During her personal time, she volunteers for numerous educational, environmental, and industry organizations, serving as board member and officer. Shannon has a B.A. from Colby College and an MBA from Boston University.

A Special Thank You to Our 2026 Competition Mentors

Maryalice Fischer, Low Impact Hydropower Institute
Team Match: Baylor University

Mauricio Recalcatti, Andritz Hydro Corp
Team Match: Appalachian State University

Jack Printup, HDR
Team Match: University of North Florida

Seth Green, Southern Company
Team Match: University of Houston

Albin Atzmueller, Voith Hydro Inc.
Team Match: Purdue University

Marcus Ogawa, McMillen Inc.
Team Match: California Polytechnic State University

Hilary Griggs, Rocky Mountain Institute
Team Match: California State University, Fresno

Jillian Lawrence, Hull Street Energy
Team Match: Stevens Institute of Technology

Belal Shanab, Virginia Tech
Team Match: Southern Utah University

Dennis Schwartz, Schnabel Engineering
Team Match: University of Southern California

Mark Christian, EPRI
Team Match: Northern Arizona University

Kyle Weiss, Pacific Northwest National Laboratory
Team Match: University of California, Riverside

Miles Salzer, University of Colorado Boulder
Team Match: Colorado School of Mines

Thank You

A Note of Appreciation...

H2O and NLR appreciate the commitment and ingenuity that student innovators have demonstrated over the past year, and we hope that through the course of your work to develop and fine-tune your projects you have gained incomparable knowledge of the hydropower industry and its technologies. We also hope you walk away from this experience with knowledge and skills you perhaps never thought you would acquire from a simple competition—and that you will be able to proudly point to this moment in time as an illustration of your ability to accomplish big things.

We would like to extend our sincerest appreciation to the faculty advisors, reviewers, industry mentors, and steering committee members that helped shape this competition. We would also like to thank our partners at Bonneville Environmental Foundation, Foundation for Water and Energy Education, Mystic Aquarium, IKM, KidWind, and National Energy Education Development Project who work tirelessly to help inspire and educate the next-generation clean energy workforce. Finally, a big thank you to the National Hydropower Association and Midwest Hydro Users Group for hosting us at the Spring Regional Meeting!

If this year's HCC cohort is any indication of what's to come in the next-generation workforce, we feel confident about our collective ability to achieve a future built on reliable energy. We look to the HCC to remind us of the promise and potential of science, innovation, and, ultimately, the exploration of the unknown.

We look to the future with hope.

Sincerely,

The HCC Organizing Team

U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation
Hydropower and Hydrokinetic Office

National Laboratory of the Rockies

NHA National Hydropower Association

2026 Hydropower Collegiate Competition

U.S. DEPARTMENT of ENERGY | Office of Critical Minerals and Energy Innovation

Hydropower and Hydrokinetic Office