ACE RESOURCES

A newsletter for the Association of Conservation Engineers

JULY 2021

Enhancing our Natural Resources

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Dear ACE Member and Past ACE Conference Attendees,

As the 2021 President of the Association of Conservation Engineers (ACE) I it is my honor to formally invite you to attend this year's 60th ACE Conference in Springfield, Missouri. This year the Missouri Department of Conservation will be hosting the conference at the OASIS Hotel and Conference Center from October 11-14. I look forward to meeting with members in person once again as we share our experiences and catch up with old friends. Fall in the Ozarks is a beautiful time and place for ACE members to gather once again.



Our virtual conference last year was a huge success and I want to extend a special thank you to our past president, Howard Thomas, and members of the executive board for finding a way to hold our conference during the COVID 19 pandemic. Howard stated in his President's Message in the January 2020 newsletter that one of his focus areas as President will be to continue to look for ways to improve and provide new services for our membership using technology. Little did Howard know of the challenges that lay ahead with the pandemic and how technology would allow ACE to hold the 59th annual conference. Please join me in extending a special thank you to Howard.

This year I have encouraged committee member involvement. Our presentation committee has been active in coordinating our Conference agenda. If you have an interesting project, please submit your presentation information for consideration for inclusion in this year's conference program. We have a couple presentation slots still open. A preliminary conference agenda is included in this newsletter so you can plan your trip to attend the ACE conference in Springfield, MO.

It is nearing time for our scholarship committee to select this year's scholarship recipients. I want to encourage ACE members to reach out to students that are eligible for the James (Jim) Schalk memorial Scholarship. The purpose of the scholarship program is to promote ACE and the continued study and learning required for the conservation of our natural and renewable resources in the areas of conservation and recreation. The application requirements and application form are included in this newsletter. I also want to encourage members to submit entries for the 28th Annual Carl V. Anderson Engineering Project Awards. Information for entry packets is included in this newsletter. ACE would like to recognize those members and their agencies who best exhibit the goals and objectives of ACE through our awards program.

We will open our conference on Monday and hold our banquet on Wednesday evening followed by an optional field trip day on Thursday. The heart of ACE is sharing our engineering knowledge and experience by building professional relationships with members. In our ever-changing world the principal practices and fundamentals of engineering keep us grounded and serve as a common bond for ACE members. Every year we have presentations that show how engineers face challenges and solve problems by taking conservation and natural resource projects from concept to reality through sound engineering design. Attendees will also enjoy a tour of the Wonders of Wildlife Museum, Bass Pro Shops, a Missouri Ecological Cave Tour, Roaring River Fish Hatchery Tour, great food, and social opportunities. Please take some time to enjoy reading our newsletter and plan to attend the 60th Annual Conference in Springfield, Missouri.

William Scheperle, P.E.

William Scheperle

ACE President

Remember to bring your silent auction items to the conference – proceeds go to our scholarship fund.

Preliminary Conference Agenda

Association of Conservation Engineers (ACE) October 10-14, 2021, Springfield, Missouri

Sunday, October 10th

Executive Committee Meeting: 2:30pm – 4:30pm

Conference Registration: 5:00pm - 8:00pm

Reception: 6:00pm - 8:00pm

Monday, October 11th

8:00am - 5:00pm

Conference Registration: 8:00am - 8:30am Welcome & Presentations: 8:30am - 12:00pm

08:30-09:30am Welcome MDC Director Sarah Parker Pauly

09:30-10:15am Wyoming Presentation Loren Woodin and Dan McGillivray

10:15-10:30am Introduction of Exhibitors

10:30-10:45am Break with Afternoon Refreshments w/Exhibitors

10:45-11:45am Bass Pro Design Staff

11:45-12:00pm Group Picture

Lunch: 12:00pm - 1:00pm (Lunch Buffet)

Presentations: 1:00pm – 4:30pm

1:00-2:00pm Jacob Novak ,PE, MDC Engineering Ethics

2:00-2:45pm Saki Urushidani City of Springfield Conservation Projects Sustainable Return On Investment: Informed Decision-Making to Improve the Springfield-Greene County Environment

2:45-3:00pm

3:00-3:30pm Presentation (Fill Time Slot)

3:30-4:30pm Exhibitor Presentations

4:30-5:00pm Business Meeting

5:45 pm Load vans (if you need a ride to local restaurants) 6:00-8:00pm Dinner on your own

Tuesday, October 12th

8:00am - 8:00pm

Conference Registration: 8:00am - 8:30am

Presentations: 8:30am – 10:00am

08:30-09:15am Presentation Jim Aslakson MDC Energy Footprint

09:15-10:00am (State Parks Staff Presentation Roaring river)

9:30am - 10:00am Wonders of Wildlife Museum & Aquarium (Travel)

Box Lunch (Provided at Bus): 12:00pm - 1:30pm

10:00am – 1:30pm Wonders of Wildlife Museum & Aquarium

Bus leaves at 1:30pm and returns @ approximately 8:00pm

3:00pm Arrive at Second Destination Roaring River

3:30pm-4:30pm Roaring River Spring Intake Renovation (Chitra Poudel and MDNR Staff) 4:30pm - 5:30pm Roaring River Hatchery Tour

5:45pm – 7:00pm – dinner/cocktails Dinner Catered by Others @ Location Near Roaring River.

8:30-10:00pm (Hospitality Room)

Wednesday, October 13th

8:00am – 8:30pm

Conference Registration: 8:00am **Presentations:** 8:30am – 12:00pm

08:30-09:30am Shooting Range Renovation MDC Dale Parsons Project Engineer & Gredell

09:30-10:15am Cave Gate Construction Bill Scheperle & Tony Elliot

10:15-10:30am Break (Morning Refreshments)

10:30-11:15am Presentation Ozark Underground Laboratory Tom Alley

11:15-12:00pm Presentation (Fill Time Slot)

Lunch: 12:00-1:00pm (Lunch Buffet)

Conference Presentations: 1:00pm - 4:00pm

1:00-2:00pm Brett Geesey HDR Break waters project

2:00-3:00pm Tim Lincoln Wheeler Bridge Timber Bridges

3:00-3:15pm Break (Afternoon Refreshments)

3:15-4:00pm Presentation Radio Towers MDC Barbara Li Project Engineer

4:00-4:30pm Business Meeting (break up into committee groups)

4:30-5:00pm Board Meeting (old/new board)

Semi-Formal Dinner: 6:00 – 8:30pm

6:00-7:00pm Cocktails (2 Complimentary Drink Tickets)

7:00-8:00pm Plated Dinner

8:00-8:15pm Speaker Jacob Careaga MDC Infrastructure Management Div. Chief

8:15-8:30pm Awards Ceremony

8:30-10:00pm Hospitality Room open

Thursday, October 14th - Optional Field Trip Branson

7:00am - 5:00pm

7:00am - 9:00am Travel

9:00am—12:00pm Tumbling Creek Cave Tour

12:00pm—2:30pm Lunch Provided and Travel to Branson Landing

1:30pm—4:00pm Explore and Dinner at Landing on own

Bus leaves at 8:00am and returns about 5:00pm

Online Registration Is Open!

Springfield, Missouri

Registration for the October, 2021 ACE Conference Webinar is currently open on the ACE Website

(https://conservationengineers.org/conference/).

Individuals interested in attending can also use the website for viewing lodging, transportation, the preliminary conference agenda, fees and other details.

Attendees are encouraged to register early to receive the discounted price!

Spread the word!

The ACE Annual Conference is a great time to network with people from the Forest Service, National Park Service, State Departments of Natural Resources, other departments, private contractors, students and vendors.

Member Conference Registration Rates:

Conference Duration	Registration Price	Discounted Price (Sept 10 th)
Full Conference	\$500	\$450
Two Days	\$450	\$370
One Day	\$230	\$190

Student Conference Registration Rates:

Conference Duration	Registration Price	Discounted Price (Sept 10 th)
Full Conference	\$280	\$230
Two Days	\$250	\$210
One Day	\$130	\$110

Other Conference Registration Rates:

Guest Full Conference	\$220
Guest One Day	\$40 — \$100
Exhibitor	\$600

Early Registration Ends: Friday September 10th, 2021

Online Membership Applications & Renewals Now Available



Been awhile since you've been to a conference? Need to renew your membership? To make sure you continue to receive our newsletter? Never joined but want to become an ACE member? Or perhaps you have recently moved or changed your email address and need to update your membership info?

All of these options are now available on-line!

Through an agreement with Meetings Northwest, ACE is now offering membership application, renewals and updates to membership information through the internet.

Simply visit our webpage at <u>conservationengineers.org</u> or follow the link here, <u>Member Registration</u> and complete your application, renewal or update.

Please contact <u>admin@meetingsnorthwest.com</u> if you have questions or if you have trouble registering.

We look forward to hearing from you.

ACE 2021 Conference Sponsor Levels

PLATINUM	GOLD	SILVER	BRONZE	EXHIBITOR	CONTRIBUTOR
\$5,000	\$3,000	\$2,000	\$1,000	\$600	\$500
2 Exhibitor Spaces	2 Exhibitor Spaces	1 Exhibitor Space	X	1 Exhibitor Space	х
4 Full Conference Registrations	2 Full Conference Registrations	2 Full Conference Registrations	1 Full Conference Registration	1 Full Conference Registration	х
Full Page Ad in Conference Agenda	1/2 Page Ad in Conference Agenda	1/3 Page Ad in Conference Agenda	1/3 Page Ad in Conference Agenda	Recognition in Conference Agenda	Recognition in Conference Agenda
Recognition in Post Conference Newsletter	X	Recognition in Post Conference Newsletter			
Logo & Link on website	Name & Link on website	Name & Link on website			



Entry

Making your submittal for the ACE Conservation Project Engineering Award is a simple two-step process:

FIRST: Prepare your **Entry packet**. Entries must be

emailed no later than, Sunday, September 12, 2021.

The entry Packet shall include the following:

- 1. A copy of the ACE Declaration of Intent form
- 2. Letter from the agency or owner giving written permission allowing for publication of any feature or innovation found to be of interest to the members of the Association.
- 3. ACE Data Sheet 1 (attached).
- 4. ACE Data Sheet 2 (attached).
- 5. Drawings; up to a maximum of 4 sheets as needed to delineate project.
- 6. Colored photographs (a maximum of six) may be utilized to complement the written description.

Note: If submittal is larger than 10 MB, then the entry can be submitted on a CD to the Committee Chair.

Winners will be notified to prepare a digital Project Panel to bring for display and presentation at the ACE 60th Annual Online Webinar Conference in, October 11-14, 2021 or at a successive conference.

Winner Project Panel

To be completed before the 2021 Conference or successive

Conference.

A project presentation is required of those winning entries receiving an Award of Excellence or an Award of Merit, and is requested, but optional, from the winner of the Award of Honor.

ACE Awards Committee Chairman—Mikel Carlson

mikec@ger-inc.biz



Judging

The judging panel shall consist of not less than three nor more than five judges. All judges will be qualified design professionals such as engineers, architects, biologists, botanists or others involved in the conservation or environmental field. At least two of the judges will be a member of ACE. The judges will be selected by the Awards Committee and may reside in the state hosting the conference. The judges will meet soon after the submission deadline to evaluate and select the projects to receive awards. The judges' decision shall be final. None of the judges may submit entries nor be identified with any submitted entry.

Definitions of Ratings Guidelines

Originality / Innovation / New Application of Existing Techniques:

Does the entry represent any new branch of conservation engineering or some type of breakthrough in general knowledge of our environment?

Does the entry represent a unique mix of different techniques, materials or equipment?

Technical value to the Conservation Engineering Profession: I

Does the entry advance the state of the conservation engineers' art?

Complexity:

Does the entry involve very complex criteria or types of problems to be addressed?

Were extraordinary problems of site, location, hazardous conditions, project requirements, or similar elements present?

Does the entry require out-of-the-ordinary technology and ingenuity for achievement?

Awards

The jury shall make awards to three meritorious entries. At the discretion of the jury, the number of awards may be limited or expanded. The following awards will be issued:

Award of Excellence	Special Award
Award of Merit	Plaque
Award of Honor	Plaque

Meeting and Exceeding Owner's Needs:

Is it an economical and cost-effective solution? How did final cost relate to original budget estimate? How closely does the entrant's solution meet the total goals of the owner?

Does the entry meet and justify its original concept? Did the entrant meet the owner's time schedule?

Natural Resources and Environmental Considerations:

Does the entrant's solution bring into play an improved program, i.e., are additional benefits realized as a spin-off?

Does the entrant's role provide society with any useful advancement in the area of conservation and environmental sciences?

Is the public health, safety, or welfare enhanced as a result of the entrant's role in the project?

A certificate of participation may be presented to all other qualified entries. From time to time a letter of recognition or certificate may be awarded to other entries as the judges may recommend.

Awards will be mailed to winners.





For use of award chairperson only

PROJECT REG. NO.	
Received	

DECLARATION OF INTENT TO SUBMIT

FOR ACE CONSERVATION PROJECT ENGINEERING AWARDS

(This page is due by email by **Sunday, September 12, 2021**)

Date submitted:	<u></u>
Note: Please furnish all information requested below for each en	try. If additional forms are required, copy this format.
I intend to submit an entry to the Association of Co	nservation Engineers Design Awards Program in the following
category and division designated.	
Category (Check One)	
A. Studies/Research Program	
B. Conservation/Environmental	
C. Special Projects	
Budget Cost of Project:	Scheduled Completion:
Actual Cost of Project:	Actual Completion:
Name of Submitting Entity:	
Address:	
Contact Name:	Phone No: ()
E-mail:	Fax No: ()
Name of Project:	
Location:	
Owner's Name:	
Note: Remember to g	et Owner's approval for use of project award nomination
Name of Consultant(s):	
(if applicable) May be the same as submitting entity	

Note: The submitting entity or the owner of the project must be a member of the ACE organization or must have made application for membership at the time the Declaration of Intent is filed..



For use of award chairperson only

PROJECT REG. NO.		_
Received		_

ACE 2021 DESIGN AWARDS DATA SHEET #1

(This page is due by email by **Sunday, September 12, 2021**)

PROJECT NAME:	
1. Agency / Firm Making Submittal:	
2. Address:	
3. Contact Name:	Contact Phone No:
E-mail:	Fax No:
4. Project Location:	
5. Project Category:	
6. Outside Consultant (s):	
7. If a winning entry, please give exact	Project Information as it should appear on the plaque or certificate
Name of Project:	
Project Owner &/or Consultants:	
Project Location:	



For use of award chairperson only

PROJECT REG. NO	
Received	

15%

ACE 2021 DESIGN AWARDS DATA SHEET #2

(This page is due by email by Sunday, September 12, 2021)

PROJECT NAME:	:	

In approximately 500 words (total), write a short summary of the project features and solutions that best answer the following rating guidelines:

Note: The unnecessary use of names of agencies, departments, consultants or individuals should be avoided. The name of the submitter(s) is removed prior to project review, so that the panel of judges may consider projects based on solely on merit.

Total:		
5.	Natural Resources & Environmental Considerations:	<u>25%</u>
4.	Meeting and Exceeding Owner's Needs:	25%
3.	Originality/Innovation/New Application of Existing Techniques:	20%
2.	Technical Value to Conservation Engineer's Profession:	15%
	on promotion to the control of the c	

1. Complexity of Program:

James (Jim) Schalk Memorial

Association of Conservation Engineers Scholarship

Application Requirements

1. The purpose of this program is to promote the Association of Conservation Engineers (ACE) and the continued study and learning required for the conservation of our natural and renewable resources in the areas of preservation and recreation. The Association of Conservation Engineers (ACE) is an international organization of engineers and allied personnel employed by conservation and natural resource agencies and consultants with specialized interests in the area of fish, wildlife, parks, forests and related conservation/recreation fields. Additional information about ACE can be found on our website a https://conservationengineers.org/awards/.

The selection of scholarship nominees shall be according to the following eligibility guidelines:

The selection shall be restricted to junior and senior students of the undergraduate study program and students of the graduate study program, enrolled in an accredited course of college, directed toward a BS or MS degree in engineering, any of the natural sciences, ecology, or agriculture.

Students shall carry a full program and be enrolled as a full-time student.

The student shall submit a minimum of a 15-minute computer presentation in PowerPoint of comparable format on a topic related to ACE's four objectives (See https://conservationengineers.org/about/)

A recommendation letter, on university letterhead, from one of the student's instructors shall accompany the submitted presentation stating the student's qualifications for this scholarship.

The monetary value of this scholarship shall be \$1,000 paid directly to the recipient. Presentation of the award shall be mailed to the recipient after the Annual ACE

Conference. It is the discretion of the recipient on how the award shall be used.

James (Jim) Schalk Memorial Association of Conservation Engineers Scholarship

2021 Application Form

Name:	Date:		
Address:			
Phone Number:			
E-mail:			
Major:			
Class (circle one): Junior / Senior of undergraduate stud	dy and graduate study		
Anticipated Graduation Date:			
Name of School:			
Address of School:			
Send completed Application Form, instructor's letter of recommendation, and presentation to			

Mattheuw Prenger

Cole County Public Works 5055 Monticello Road Jefferson City, MO 65109

Or email Mprenger@colecounty.org

Applications must be received no later than September 3, 2021

Winner will be notified by September 24, 2021.

This application can also be accessed at <u>James Schalk Memorial Award</u>.

Missouri Project Updates



MDC recently completed the renovation of the Hunnewell Lake
Detention Basin. Justin Fessler, Project Engineer, submitted the project for
the July Newsletter.

Hunnewell Lake Conservation Area covers 1,905 acres and includes a 228-acre lake, and a fish hatchery. Construction of Hunnewell Lake began in 1952 and it was opened for fishing in 1956. The hatchery construction began in 1958 and fish production began the following year. Today, the hatchery raises a

variety of fish including channel catfish, largemouth bass and bluegill sunfish, walleye, and hybrid sunfish for stocking in Missouri ponds and lakes. Total production is about 700,000 fish per year from 16.4 acres of hatchery ponds. Hunnewell Lake provides the water supply for the hatchery.

The land that is now Hunnewell Lake Conservation Area was originally a tall-grass prairie, sustained by rich glaciated soils. Over time sediment accumulated in the 3 detention basins located on the three main wa-



tersheds that feed the lake. MDC renovated one of the three basin that was deemed to be in the worst condition.

The original proposal called for dredging the basin, but the dredging method was too costly. A more cost-effective design proposal increased the wall height of the old structure by 3' and increase the detention basin dam height by 3' in turn creating more storage capacity.

Missouri Project Updates



In an effort to show some of the "cool" projects we are doing, Jim Aslakson submitted the Shoal Creek Conservation Education Center Aquarium project.

At Shoal Creek Conservation Education Center in Joplin Missouri, we have a nature center. One of the attractions is the aquarium which features a three-

stage aquarium with water flowing from one aquarium exhibit to the next. Water flows from the turtle exhibit to the minnows exhibit to the large fish exhibit in the main aquarium. In the mechanical room are the pumps, filters, chiller, and ultraviolet systems needed to keep the fish happy and healthy. Of course, on the roof we have the condensing unit – that is the "cool" part. In this project, we are moving the piping and equipment in the mechanical room to the right to give more room for exhibits on the other side of the mechanical room wall and the animal service area in the mechani-



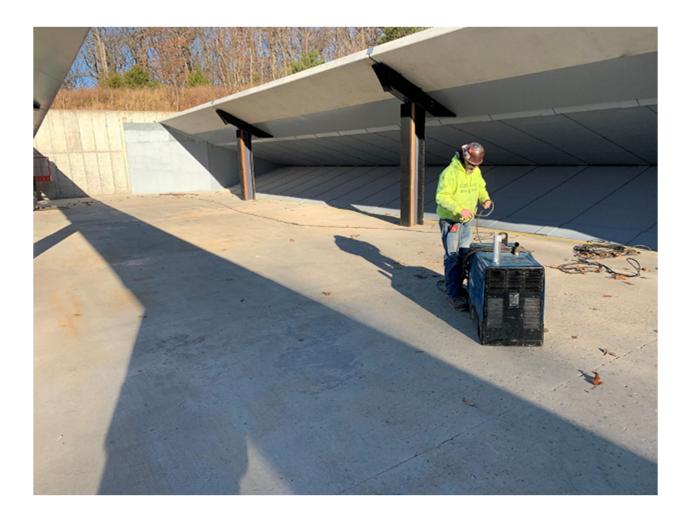
cal room. When we do this we are replacing the ultraviolet system and the chiller and chiller bundle – again, that is the "cool" part.



Missouri Project Updates

The Henges (Jay) Shooting Range and Outdoor Education Center in St. Louis County, Missouri was recently improved by installing a new bullet trap and overhead baffle panels. Bill Scheperle, Project Engineer submitted the project for the June ACE Newsletter.

MDC completed the replacement of the Henges Range Bullet trap and replaced six rows of overhead concrete baffles with new AR500 Steel armored baffles in addition to performing some maintenance repairs and patching of the lesser impacted overhead baffles. Designers were able to utilize the existing foundations and support columns for the new bullet trap and baffle panels. The range was opened to the public in November of 2020.



Missouri experienced an unusually cold February this past winter. During February from the 7th to the 18th in Branson, Missouri, the high temperature did not get above freezing, the average low temperature was 11 degrees Fahrenheit, and the low temperature -8 degrees. Do to this cold snap there were many waterlines in the area that developed leaks. A leak was detected at the Shepherd of the Hills Fish Hatchery in the spring and after an investigation it was determined that the leak was in the main supply lines for the hatchery supply system. It was also determined that there was no way to fix the leak without shutting off the main supply line to the hatchery from Table Rock Dam. The hatchery cannot keep the fish alive for longer than 1 hour with the water shut off. Due to the risk to losing all the fish at the hatchery, the problem became an emergency that needed immediate attention. To perform the repair on the distribution lines, a temporary source of water needed to be provided to sustain the cold-water flows required to



keep the fish alive. The solution identified was to bid a project for a contractor to provide for installation, operation, and tear down of a temporary pumping system capable of pumping water from Lake Taneycomo (discharge from Table Rock Dam) to the 15 raceways with a flow to each raceway of 700 gallons/minute for a total pumping capacity for the temporary pumping system of 10,500 gallons per minute. A bid package was quickly put together and the project was bid according to state regulations for emergency repairs. The successful Contractor selected for the project was Western Oilfields Supply Company dba Rain for Rent with a low bid of around \$74,500.

The emergency repairs were performed by the Missouri Department of Conservation's Infrastructure Management In-house Construction and Maintenance crew during the week of May 3-7, 2021. In order to minimize the risk to the hatchery, as much work as possible was performed before the shutoff to minimize the time duration that the main supply line had to be shutoff. This resulted in the duration of time required for the shutoff and temporary pumping being three (3) hours. Below are pictures of the temporary pumping system that was installed and our crews working on the repairs.

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Wyoming Project Updates

This was a small bank stabilization/stream rehab project with a bottomless culvert we completed in 2020 on Salt Creek in far west Wyoming (lat 42.466612, lon -110.968863).

Past experience says that as soon as you finish stream work, you'll get a record spring run-off. That didn't quite happen this year, and it survived the first run-off well.







Association of Conservation Engineers

ACE Objectives

- To encourage and broaden the educational, social and economic interests of engineering practices.
- 2) To promote the recognition of the importance of sound engineering practices in fish, wildlife and recreation development.
- 3) To enable each member to utilize the experiences of other members.
- 4) To generally take all such proper action that may be necessary to further the cause of fish, wildlife and recreational developments.



The Association of Conservation Engineers (ACE) works with the natural environment to promote the application of sound engineering practices in the field of natural resource protection and recreation development.



