

National Engineers Week 2014

February 16-22

SAVE THE DATE!

- The next WV Section meeting will be held at the WV EXPO on March 27 at the Charleston Civic Center
- The Annual WV Section Meeting will be held on September 26-28, 2014 at Oglebay Resort in Wheeling.

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The Informant Winter 2014 – ASCE WV Section

March 2014



West Virginia Section - American Society of Civil Engineers

President's Corner by Jerry Elkins

ASCE Greetings! I am honored to be serving as President of the West Virginia Section of ASCE this year. I would like to thank the members for my nomination to this position and I look forward to a year full of exciting programs and events for our Section. I want to sincerely thank Shelley Porter, Past-President for an outstanding 2012-2013 year under her leadership. I want to also thank Past-Past-President Wael Zatar for hosting a terrific Annual Meeting weekend in September at The Resort at Glade Springs. I would also like to thank all of the new and returning officers, committee members and volunteers who have contributed so much to the success of our Section. I look forward to working with all of you this year.

We have had a great year so far, both on a local and national level. Locally, we have held two WV Section meetings since the Annual meeting. The first was held in conjunction with the WV Tech Annual Fall Technical Conference. The Tech students did an excellent job at hosting a very professional conference. The second meeting was held in January in conjunction with the Marshall University Annual Winter Technical Conference. The Herd students also did their institution proud. Our next meeting is scheduled to be held this year in March during EXPO 2014. This year's Annual Meeting is being planned by Past-President Shelley Porter and will be held at Oglebay Resort & Conference Center the weekend of September 26th – 28th. Watch for details in the next newsletter and by emails.

The section and branches have also participated in many community service projects through the excellent volunteer efforts of its students, younger members, and members. As you read through the newsletter, look for ways you can volunteer and actively participate in worthwhile causes and give something back to your profession.

Nationally, ASCE is currently supporting several initiatives. These include Raise the Bar, Government Relations, The Report Card for America's Infrastructure, Disaster Preparedness and Response, and Sustainability. If you are interested in becoming involved with any of these initiatives please contact me or visit the website at <http://www.asce.org>.

Engineer's Week will be celebrated nationally the week of February 16th – 22nd with outreach and social activities planned for the engineering community. There is the Scholarship and Celebration Dinner, Introduce a Girl to Engineering Day, SAME Engineering Career Day, and Discover Engineering Family Fun Day. More details are included in the newsletter.

WV—Younger Members Forum (YMF) Update



West Point Bridge Design Contest - hosted by YMF - ASCE

For more info on the West Point Bridge Competition check out:
www.wvbridgecontest.com
 or contact WV Contest Coordinator, Amanda McClellan,
 at Amanda@wvbridgecontest.com

Governor's Corner— By Carol Stevens

As we celebrate another Engineer's Week, our profession is experiencing challenges and changes. There have been changes in the Fundamentals of Engineering (FE) exam with respect to how the exam is administered as well as exam content. Gone from the exam are some of the basics that many of us were tested on, namely chemistry and physics. The Principles and Practice of Engineering (PE) exam has also experienced changes, with the Civil exam now being discipline specific (construction, geotechnical, structural, transportation and water resources & environmental). There is also now a 2-day structural exam, with afternoon modules based on either buildings or bridges.

There is also a movement in several states toward de-coupling the experience requirement related to the taking of the PE exam, meaning that in some states, the PE exam can be taken prior to achieving designated number of years of experience. Licensure, at this point, still requires the experience. As these changes continue, we should ask "What is the purpose of the PE exam?" Continue to follow licensing and exam changes and how they may impact our future engineers as well as our profession.

There are also continuing changes in Civil Engineering education, namely the shrinking number of credits necessary to obtain a BSCE degree. Add to that the institutional requirements related to broader education outside of engineering and the result is that the number of engineering courses that are required to graduate have decreased. This is where the ASCE Policy 465, and now the Raise The Bar initiative have been gaining momentum. Continue to follow these issues which impact our proud Civil Engineering profession.

Carol Stevens, PE, F.ASCE, Region 4 Governor (WV)

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Northern Branch Report by Lacy Moody

The Northern Branch is continuing its joint meetings with the West Virginia Society of Professional Engineers and the Associations of American Cost Engineers. The January meeting was held on January 23. The meeting was hosted by WVU and the speaker was Andy Deichert, State Conservation Engineer for the Natural Resources Conservation Service (NRCS). Mr. Reichert presented on the rehabilitation project of the New Creek Watershed Dam No. 14 which upgraded the dam to the current design criteria.

Joint meetings will be held monthly from February through May. Meetings are scheduled to include presentations on Cost Engineering, the automation of the fracking process for natural gas wells, a tour of the construction site of the new WVU baseball facility, and a meeting hosted by the WVU ASCE Student Chapter. Meetings will resume again in September.

Charleston Branch Report by Melissa Thompson

The Charleston Branch of ASCE recently co-hosted the annual Engineers Week Scholarship and Celebration Banquet on Feb. 18 with WVSPE and ACEC. The banquet was held in the auditorium of the Columbia Pipeline Group building in Charleston. Dr. Michele Wheatly, Provost of WVU, was the guest speaker.

Haylie Ballard, WVU Tech civil engineering student, was selected as the 2014 Charleston Branch Scholarship winner. Haylie is an officer in the WVU Tech ASCE Student Chapter. She was awarded \$500.

The Charleston Branch is currently seeking office nominations for all offices. President, Vice-President, and Secretary/Treasurer. Please consider volunteering to fill one of these important roles. Contact Melissa Thompson at mthompson@bridgemont.edu for more information.

National News Update by Carol StevensASCE ANNUAL NATIONAL MEETING

Our Society is called the American Society of Civil Engineers and has been for over 150 years. It is actually an international society, with members all over the world. The Society has a global strategy and is investigating the feasibility of locating an office in India. The Society Annual Meeting this year (Oct 2014) will be held in Panama City, Panama to celebrate the 100th anniversary of the Panama Canal. There are a number of tour opportunities that will be available along with numerous history presentations.

SOCIETY COMMITTEE APPOINTMENTS

Applications are open for society committee appointments until March 15, 2014. Anyone interested in serving on any of the many committees should apply online.

Bluefield State Student Chapter Update — by Alex Quesinberry

The Bluefield State Student Chapter has devoted much of the past few months preparing for the upcoming Virginia's conference. We are looking forward to the conference, and have plans to compete in many of the events, including the Steel Bridge competition, the Surveying, Environmental and Sustainability competitions, as well as the Hardy Cross Cup and the Marr Technical paper. We have been actively recruiting younger members and will have 15 students attending the spring conference.

In addition to preparing for the spring conference, in October the chapter hosted Lesley Rosier-Tabor, Executive Director of the WV Board of Professional Engineers, to speak and answer questions on the FE/PE exam changes that took place on January 14th. The event was well attended by students from all departments, with approximately 50 students attending. The chapter also attended the WVU Tech Fall conference, with several students and faculty members present.



Marshall University Student Chapter Update— Cory Gibbs

The MU SAME-ASCE 6th annual winter technical conference was held on January 23rd on the campus of Marshall University and was hosted by Marshall University's Society of American Military Engineers – American Society of Civil Engineers student chapter. Students once again held a successful conference and made the Weisberg Division of Engineering and Marshall University proud.

The conference provided the opportunity for professional engineers from the surrounding area to earn profession development hours (PDHs) that are required to maintain their professional engineering license. States typically require an engineer to obtain between 12 and 15 PDHs per year, this conference provides five of these PDHs.

As always the conference provided educational and thought-provoking presentations. Presentation topics ranged from Ethics in Engineering Practice to the Unique Design and Construction Aspects of the Dick Henderson Bridge to the Design and Construction of the Ford Class Aircraft Carriers. In addition to the educational aspect of the conference, there were also opportunities for local engineers to interact and network with each other as well as the seniors that will graduate this spring.

This year's attendance was 172 attendees consisting of 106 professional, 57 students, and 9 faculty. Jonathan Lambert was the master of ceremonies for the conference. The student chapter is thrilled to be able to host this conference each year, and is excited to make next year's conference even better! A huge thank you goes out to everyone that helped and attended to make the conference a continuing success.



Fairmont State University Student Chapter Update by Lisa Allen

Fairmont State University's Student chapter of ASCE got off to a running start and is planning to barrel through the rest of the year with a top notch finish. Fairmont State has participated in many service projects this year, poured our canoe and plan to end with our Annual Summer Technical Conference.

Just to name a few service projects Fairmont has participated in are the Engineering Challenge, where college students host high school students by teaching them about anything engineering or science/math related. This year we had about 10 ASCE members volunteer to teach surveying and bridge design. The younger kids had a great time learning what it actually takes to build a bridge.

Fairmont's Concrete Canoe team hosted a workshop with George Mason University, a brand new team, to help give them some pointers on how to get started and improve their concrete canoe. We spent the first half of the day practicing paddling out at Prickett's Fort and the second half in the lab mixing and getting our hands dirty. It was beneficial to both teams to have that bonding experience and ability to get out there and practice.

In addition to past projects, we are currently working on the West Point Bridge Design where we will go around to local high schools and middle schools to teach the students how to use the software and give them some pointers on how to make it the best design possible so that they might win some prizes.

Fairmont State's Concrete Canoe is coming along nicely. We recently poured the canoe on February 1st and have picked a theme and just putting the last minute touches together. Everyone is excited about going to Regional's this year and hopefully we save a spot for National's again.

And finally Fairmont State's Student Chapter ASCE will be holding our Annual Summer Technical conference, E³= Engineering Effects Everyone. This will be held the FIRST Thursday in June and are still looking for speakers. If anyone would like to present please email Tia Como at Tiacomo@comcast.net. Thank you.

This is only a short glimpse at everything we have accomplished this year and hope to continue to accomplish in the next coming months.



Photo provided by Lisa Allen, FSU

WVU Tech Student Chapter Update by Haylie Ballard

WVU Tech's student chapter is better than ever. The member count this year had increased dramatically to almost 30 student members. Underclassmen are starting to get more involved which will keep the program going strong for years to come. This past fall, the student chapter helped with the open house at Tech and hosted the annual Fall Technical Conference. Multiple guest speakers came to our meetings. Mike Johnson talked about his engineering practices in Rwanda and Shelley Porter discussed the AWWA.

After the break, work on the concrete canoe and steel bridge began to get ready for the Virginia's Conference at VMI in April. In February, the student chapter is participating in Introduce A Girl to Engineering Day and Discover Engineering Day where students will demonstrate egg drops and construct bridges from marshmallows and toothpicks. The program will continue to get stronger as the year goes on and great things are in store for this student chapter.



Photos of WVU Tech's ASCE Student Chapter—past conference participation and field trips. Photos provided by Dr. Tigra Yang, WVU Tech Chapter Advisor



West Virginia University Student Chapter Update by Jack Poore II**2013-2014 WVU ASCE Student Chapter****August**

Our Student Chapter started off the year trying to recruit through a picnic at our local park. We were successful and managed to gain between 6-10 people. We discussed what the ASCE Student Chapter consists of and some ideas that we wanted to implement in the new semester.

September

September consisted of dividing up into teams for the steel bridge and concrete canoe for the upcoming Virginia's Conference in April. Both teams spent the month planning and exploring new ideas.

October

Volunteer events were being emphasized and most members were taking part in various events. One of the events that took place was handing Halloween candy out to the community. Our group also participated in the pumpkin drop, blood drives, and high school visitation day. High school visitation day consisted of giving high school students an introduction to the campus and answering any questions they may have of transferring from high school to college. Our group also participated in the New River Gorge Bridge walk, where we had the chance to walk underneath the bridge in the superstructure on a catwalk.

December

Newly elected officers took office and officer training was held. Final designs were being discussed for the bridge and concrete canoe.

**January**

Steel for the bridge was delivered and materials for the concrete canoe were being ordered. The steel bridge team got underway on the building of the bridge.

February

The steel bridge team is still making good progress on the build. The concrete canoe team is pouring their mix after several weeks of creating a mold for the concrete to be poured into. The newly elected officers traveled to Indianapolis, Indiana to the WSCL. A lot of experience was gained through various seminars to improve the chapter and also to become better individuals.



West Virginia Section – American Society of Civil Engineers

**SAVE THE DATE!**

2014 WV Section Annual Meeting
September 26-27, 2014
 At
Oglebay Resort, Wheeling, WV



The 35th Annual West Virginia Construction & Design Exposition

By Jeff Huffman

The 35th Annual West Virginia Construction & Design Exposition is scheduled for **March 26 & 27, 2014 in the Charleston Civic Center**. This is a great opportunity to promote your business, attend seminars to obtain PDHs, support the ASCE WV Section, see what the student chapters have been doing, and catch up with friends.

This year we will have a booth to promote the Society and hopefully gain a few new members, both professionals and students. We will need our members to volunteer to work the booth. In mid March we will email a link to an online system for tracking who is volunteering for what time slot. We will have ½ - 1 hour time slots to accommodate everyone's schedule. The student chapters will also have booths displaying their student activities, I am sure there will be concrete canoes and steel bridges to review. Stop by their booths to see what they have been accomplishing.

The WV Section meeting and the technical student presentations will be on Thursday, March 27th. The Section meeting will be from 9:00 to 11:00 a.m. in conference rooms 207/208, and the student presentations will be conference room 202 from 1:00 to 3:00 p.m. I encourage everyone to attend these events so we can have a successful section meeting and to support the student chapters. I am sure the students will have presentations every bit as impressive as last years.

The WV Section is sponsoring the following nine seminars at the WV EXPO:

Please see the official WVEXPO website (www.wvexpo.com) for the dates and times of these seminars.

I hope to see everyone at WVEXPO.

Jeff Huffman, WV Section ASCE, Vice President

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Listing of WV Section sponsored seminars at the WV EXPO:

The Engineer as Employee: Obligations and Conflicts

Betsy Ennis Dulin, J.D., P.E., Marshall University

This session will address inherent conflicts in the engineer's legal and ethical obligations to his/her employer and other professional responsibilities, including the public welfare. Discussion will include an overview of the engineer's ethical and legal obligations in the workplace, as well as review of relevant case studies.

US190: Mississippi River Bridge Rehabilitation Design, Cleaning, and Painting

Durk H. Krone, P.E., TRC Engineers, Inc.

The U.S. 190 Mississippi River Bridge was constructed in 1940. The bridge consists of 8,884 feet of railroad approach spans, 2,552 feet of highway approach spans, and 3,326 feet of cantilever steel truss main spans for a total length of 12,111 feet. For this complex steel truss, attendees will observe the concepts and approach used to rehabilitate, clean and paint, and development of an accelerated design that included a method to quantify repair types, each with a unit price to reduce change order expense.

Unique Design and Construction Aspects of the Dick Henderson Memorial Bridge

Shaun Long, P.E., Michael Baker Jr. and Ahmed Mongi, P.E., WVDOT

Join us as we discuss unique design aspects of the design and construction of the Dick Henderson Memorial Bridge. The Project team utilized the existing piers saving a significant amount of time and money. After only 10 months of closure, the superstructure was completed at the end of October and opened on November 1st.

From Idea to Implementation - A Critical Infrastructure Hazard Mitigation Success Story

Mohiuddin Shaik, P.E., GISP, CFM, Technical Manager, Michael Baker Jr., Inc.

Michael Baker Jr., Inc. recently completed a flood risk assessment and mitigation project for the Charleston Area Medical Center's Memorial Hospital. The project was funded by the West Virginia Division of Homeland Security and Emergency Management through a Pre-Disaster Mitigation Competitive (PDM-C) grant; the City of Charleston, West Virginia, administered the work. After a brief introduction to the potential flooding risk for this regionally very significant critical infrastructure facility, this presentation will provide an overview of the project from the flood risk assessment stage to the flood risk mitigation phase. This will provide insights into the lifecycle of a flood mitigation project and technical details on the engineering approach for the risk assessment. A glimpse of the hydrologic and hydraulic modeling for this project will also be offered.

Trench Style Self Cleaning Wet Wells

Jenelle H. Armstrong, PE, The Thrasher Group

Design Basics and Benefits of Trench Style Self Cleaning Wet Wells. Explanation and limitations of self-cleaning cycle. Sample Pump Station Layout and Typical Design Criteria.

Management of the Outdoor Advertising Program in West Virginia

Wael Zatar, Professor, Marshall University and Hussein Elkhansa, WVDOT

As a part of its asset management implementation plan, the WVDOT developed a digital inventory and GIS driven web-based application for the Outdoor Advertising Program. The development will provide the WVDOH unprecedented access to information in a real time, new features to expedite the program's management and assistance for fast retrieval of critical documents.

Bluestone Dam: Risk Assessment - Risk Management - Risk Communication

Lisa R. Morgan, PMP, US Army Corp of Engineers

Bluestone Dam is located on the New River within the mountainous region of southern West Virginia in Summers County. The project has prevented over \$2 billion in flood damages (cumulative, not inflated). The focus of the seminar will be on the Dam Safety Risk Framework: Risk Assessment, Risk Management and Risk Communication.

Retaining Walls - A Basic Selection Process

Lee McCoy, Triad Engineering, Inc.

Basic process for determining type of retaining wall that is most feasible in certain project situations.

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WV EXPO ASCE sponsored presentations, continued — Continued from page 9.**Engineering Education, NCEES/WV PE Board Initiatives and Successful FE/PE Examinee Recognition***William Pierson, PhD, PE and Lesley Rosier-Tabor, PE*

Considering the importance of engineering education to professional licensure, in 2012 the NCEES Board of Directors created a new standing committee, the Committee on education. The purpose of the Committee on Education is to "serve in an advisory role for education issues related to ABET, requirements prior to initial licensure, continuing professional competency, and foreign degree or unaccredited program evaluation. The committee shall review and update the Continuing Professional Competency Guidelines as necessary, but at least every five years. "NCEES President has assigned the Committee on Education eight specific charges for 2013-2014; among these is the charge to "Further define the education registry concept with regard to both continuing professional competency (CPC) and the master's-or-equivalent requirement for engineering licensure." For professional engineers licensed in multiple jurisdictions, a CPC/PDH registry is seen as an aid to registrants in maintaining a log of CPC/PDH activity and as an aid to boards in verifying CPC/PDH submissions. This presentation will discuss the work of the Committee on Education to date and will provide an opportunity for registrants to provide feedback on the features that the registry should have to support mobility. Join us for this interactive discussion in addition to learning about current WV PE Board activities and other NCEES initiatives. Participants will have the opportunity to interact with the WV PE Board members, meet our new PE Board Investigator and hear from the WVSPE leadership regarding their latest activities. The WV PE Board will complete their presentation by joining the leaders of WVSPE to honor those students and professionals who successfully passed the 2013 NCEES Principles and Practice of Engineering Exams.

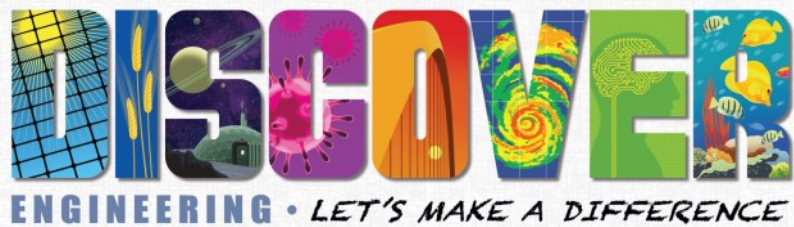
WV Report Card Status Update by Dave Meadows**Don't Want to be Last**

Once there were fifty and now there are three. This sounds like we are in a competition to win but actually we are in a competition to not be last. South Carolina, Arkansas and West Virginia are the only states that do not have an ASCE State Report Card. We have always heard how West Virginia ranks near the bottom on everything. So yes, we are going to be near the bottom again but we do not want to be last.

For several years we have been talking about completing a West Virginia Report Card and even began efforts to do so on multiple occasions. However, for one reason or another we have just not got it going full steam. Carol Stevens, Gary Facemyer and David Meadows have teamed to get the ball rolling again but, they still need assistance. We have failed in the past because this is just too large of an effort for just a few to tackle. Our goal is to have one team member for each of the report card subjects, which are: Roads; Bridges; Dams; Drinking Water; Ports; Aviation; Schools; Parks; Wastewater; and Energy. You do not have to be the subject expert to be part of this team. Just identify the subject that you feel you can provide some assistance and then you can solicit information from those that are more familiar with the subject. You can then compile it for the report card. Just contact Carol Stevens by email at calalane@aol.com to join the team or if you have any questions.

Engineering Degree—A comprehensive directory of engineering degree programs online.

<http://www.engineeringdegree.com/>



National Engineers Week Update by Melissa Thompson

National Engineers Week is held annually in February. Again this year, many outreach activities were planned during and around this time to celebrate and give back to our profession. Please consider getting involved in one of these growing annual events:

- **Chick-fil-A Engineering Kids Night—Feb. 17—** This restaurant partnered with Bridgemont CTC to host a family night for kids to participate in hands-on activities while visiting the restaurant in South Charleston.
- **Engineers Week Scholarship and Celebration Banquet—Feb. 18—**over 40 professionals from ASCE, WVSPE, and ACEC participated and honored WV college students with scholarships.
- **Introduce a Girl to Engineering Day—Feb. 20—** In its 6th year, this annual event in Charleston hosted close to 200 8th grade girls and 30 professional women for a day of teamwork, networking, and inspiration. Statewide interest will allow this event to grow to multiple locations in 2015!
- **S.A.M.E. Engineering Career Day - Feb. 20—**This annual event is held at Marshall University and recently hosted 140 high school juniors and seniors and introduced them to careers in engineering.
- **Discover Engineering Family Fun Day—Feb. 22—** This annual event in its 7th year at the Clay Center in Charleston welcomed hundreds of children through the day to participate in hands-on activities all related to STEM education. Many local colleges and companies participated, including Marshall, WVU, and WVU Tech.
- **West Point Bridge Design Competition—**volunteers have been visiting classrooms all over WV to promote this competition to middle and high school students. The state finals will be in May.



<http://www.discovere.org/>