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Journal of the Louisiana Section

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Flood Fighting on the Red River near Brouillette Community

FEATURE:

Update on Flood Fighting Efforts in Non-Coastal Louisiana

NEWS:

Compression Index Correlations for Southeast Louisiana

Spring Conference in Shreveport Success



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The Louisiana Section is located in ASCE Region 5 that consists of the Louisiana, Mississippi, Alabama, Georgia, and Florida Sections.

President's Message By Christopher Humphreys, PE

As we reach the halfway point in the ASCE calendar year, I am happy to report that the Louisiana Section is on schedule with our typical annual activities as well as those additional initiatives we set out to accomplish. We will hold our annual Section General Membership Meeting in conjunction with the Spring Conference in Shreveport at the end of April. The Shreveport Branch has put together an outstanding line up of speakers in multiple tracks offering a wide variety of continuing education topics. Based on registration to date the conference will be very well attended. At the General Membership Meeting we will recognize our Life Members as well as present our award to the outstanding civil engineer student from each of the six universities in Louisiana.

Coming right after the Spring Conference, the Acadiana Branch is hosting a half day conference in Lake Charles that will also provide three hours of technical presentations as well as an ethics presentation. Lake Charles is part of the Acadiana Branch but because of the great distance between Lake Charles and Lafayette, it is difficult for members in Lake Charles to participate in many Acadiana Branch activities. So, thanks to the Acadiana Branch and the Section for providing excellent presentations of quality technical topics and an ethics presentation in Lake Charles for the convenience of some of our otherwise "under-served" members.

I should note that the speakers at each of these conferences are by and large general members volunteering their time and effort. On behalf of the Louisiana Section, I thank all of our volunteer speakers. I also encourage others to consider making presentations at their Branch or Section events. It is a great way to highlight your work while giving back to the profession.

In my last President's message, I reported that the Louisiana Section voted to co-fund a lobbyist along with the Louisiana Engineering Society. On a national level, the ASCE is an active participant in the political process, working hard to advance legislation that supports infrastructure funding and Civil Engineering. On the state level, the ASCE has never been particularly active in the process, rather electing to be the technical experts on an as requested basis. It is my personal opinion that we should always be the impartial technical experts, but we have to be involved in the process to protect our interests and promote awareness of our infrastructure needs. With the competition for very limited revenue for infrastructure and the efforts by some to dilute our licensing laws and expand the definition of civil engineering to allow others to perform work that should only be performed by licensed professional civil engineers, it is important to have an expert on our side to support our interests. For the second year in a row there are several bills have been introduced in the current legislation that would do just what I have described above. Our Government Relations Committee and officers met with our lobbyist, Randy and Ryan Haynie, to discuss our concerns and provide information which they were able to use to develop a strategy to successfully fight these bills. They are also helping the GRC set up meetings with various groups of legislators to highlight

our Infrastructure Report Card to promote support for infrastructure funding. Based on their work to date I believe the decision to fund our lobbyist was a good one and that our GRC will continue to make the most of the opportunity.

One of my goals as



Christopher Humphreys, PE

President this year was to get the 2017 State Infrastructure Report Card Committee up and running so that we can produce an updated report card next year, five years after our

can produce an updated report card next year, five years after our first Report Card which was produced in 2012. I am delighted to report that thanks to the initiative of the Government Relations Committee and the many members who quickly volunteered to be a part of this outstanding publication, the 2017 Report Card Committee is in place and ready to begin the hard work needed to produce a document like the 2012 report card which is widely recognized as "Best in Class" of state infrastructure report cards. What I thought would be a difficult goal to accomplish at the start of my term as president was practically effortless and automatic thanks to the hard work of our Government Relations Committee, one of many hard working volunteer committees of the Louisiana Section, and the very active membership in the state. It is a pleasure to serve the active membership alongside so many hard working volunteer officers, directors and committees.

I also committed to working with the Branches and student chapters during my term. In June I will be judging the 29th annual ASCE National Concrete Canoe Competition hosted by University of Texas – Tyler on June 9 – 11 in Tyler Texas. As you all know the NCCC showcases use of concrete in civil engineering innovation and excellence. Thousands of college students design and construct concrete canoes while learning about concrete materials, mix design and performance, engineering, teamwork and project management. The NCCC is the culmination of 18 conference competitions across the US and Canada. I understand that McNeese State University, winner of the Deep South Conference competition, will be in the field. Good luck to McNeese as it will be a tough competition judged on four categories, design paper, final product, oral presentation and races, each worth 25%. I look forward to working with the students.

In closing I'd like to thank everyone who has participated in the various conferences, committees and branch / section activities. I hope to see as many members as I can at these events and encourage you to let me know what the Section can do to make your membership more beneficial. Best regards and have a safe and productive Spring.

Update on Flood Fighting Efforts in Non-Coastal Louisiana By Susan Douglas, PE

Louisiana waterways play a daily role in many communities whether for commerce, agriculture or recreation. The United States Geological Survey (USGS) actively monitors 255 different waterway locations including rivers, bayous, lakes, and waterway structures such as discharge structures. Where there is significant risk of major impacts to communities, flood control measures have been implemented, frequently in the form of levees. Maintenance and operation of flood control measures in the state is an ongoing process, which allows communities to enjoy the benefits and minimize the risk of nearby waters of the state.

Flood control measures are typically designed to contain waters in excess of the record floods in an area. For much of Louisiana, the record flood values were set in 1927 when catastrophic flooding due to multiple levee breaches along Louisiana rivers inundated an estimated 10,000 square miles in 20 parishes. People were driven into refugee camps, similar to the one shown in Photo 1, often for 2 weeks or more. In response, areas that had no levees prior to the 1927 flood began to establish flood control measures, and surviving levees were often augmented to protect from a similar disaster.



Photo 1

While levees are the primary flood control methodology in coastal Louisiana, other methods are in use in the more northern parishes. This article describes some of these alternative methodologies and provides an update on some of the ongoing flood fighting actions underway already in 2016.

LEVEES AND FLOODWALLS: A COMBINED APPROACH TO FLOOD CONTROL

Levees are the most frequently used form of flood control and have been constructed by different types of groups ranging from local communities to the U.S. Army Corps of Engineers (Corps). Through different legislative actions, levees have largely been classified as Federal, e.g. meeting a set of Federal standards, and non-Federal, which includes levees outside of the Federal system. The Corps maintains a National Levee Database, which includes approximately 2027 miles of Federal Levees within the state. In Louisiana, levees are the jurisdiction of Levee Boards, which regulate activities on and around the levees, perform maintenance and operations, and coordinate with other agencies such as the Corps and Louisiana Department of Transportation and Development (DOTD) for support on projects and during flood events. Louisiana has 24 Levee Districts in operation, many of which also handle drainage related activities.



Susan Douglas, PE

The Tensas Basin Levee District (TBLD) was established in 1884, and is the oldest levee district in the state. It includes all or part of eight parishes, and includes area within Arkansas (operated as the Southeast Arkansas Levee District). When the 1927 flood occurred, the cities of Monroe and West Monroe did not have levees established to protect them from the rising Ouachita River. Sandbags were used to construct protection for residences as seen in Photo 2, and to attempt to dam off rivers as in Photo 3 with some minimal success. Unfortunately the majority of both Monroe and West Monroe suffered unmitigated flooding across much of the community as seen in Photo 4.





Photo 3

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Photo 4

Areas within the jurisdiction of the Tensas Basin Levee District (TBLD) now use a combination of flood control measures to guard the communities against flooding. For most areas, levees were subsequently constructed to protect the communities where today they run through urban areas behind houses, parks, and places of business. For Monroe, West Monroe, and Jonesville, however, the decision was made to construct floodwalls for protection through the downtown areas, which eliminates the setbacks and maintenance that levees require.

A permanent 8700 foot long floodwall was completed through West Monroe in 1934. This floodwall has provided active protection for West Monroe as recently as 1991 when the Ouachita River reached a record level of 81.92 feet NGVD on May 4. Monroe also has a permanent floodwall, which is 8554 feet long. When the Ouachita River is predicted to rise above 40 feet, placing double columns of stop logs in the gaps with concrete between the columns to maintain placement and provide a watertight seal closes the gaps in the permanent floodwalls. Once installed, these closures are maintained throughout the flood season when they are then removed and the gaps reestablished.

The community at Monroe did not want to the view of the river to be blocked in the downtown district, yet needed flood protection installed. To address this, a flood control project was constructed which consists of 1,420 feet of folding floodwall and 350 feet of permanent floodwall. A photograph taken during construction shows the concrete forms for the panels (Photo 5). Construction was completed in 1977. The folding floodwall consists of 142 individual 10-foot concrete panels, and takes approximately 2 days to deploy for protection. Photo 6 shows a crew raising the panels on the folding floodwall, which is shown installed, and in place in Photo 7. Floodwaters reached the toe of the folding section of the floodwall in 1991 as seen in Photo 8. When not deployed, the folding floodwall is part of the sidewalk along the river through downtown Monroe.



Photo 5



Photo 6



Photo 7





The permanent floodwall through Monroe is 82 years old, and a subsurface investigation is currently underway by the Corps to determine the cause of cracks originally discovered in 2012. Several teams of engineers from the Corps have inspected the wall and are confident that it continues to function as it was intended. Additionally provisions have been made by TBLD to sandbag the wall during a high water event as an extra precaution as the study goes forward.

A floodwall through the downtown area of Jonesville was also constructed for flood protection, and was incorporated into a full protection works for the town that was completed in 1952. Jonesville is located where the Ouachita and Tensas Rivers join to form the Black River. Near that junction, the Little River joins the Black, which then flows southward to join with the Red River near Acme. The project provides flood protection to the city of Jonesville from headwater floods on the Ouachita-Black Rivers and backwater flooding from the Mississippi and Red Rivers. The floodwall is approximately 1,425 linear feet in three segments. Gaps are closed during high water events by installing stoplogs in the gaps using tar to seal the stoplogs to the structure and to each other. A typical

stoplog installation from the January 2016 high water event is shown in Photo 9 with a close view of the wall channel in Photo 10.





2016: ALREADY A YEAR MARKED BY FLOODING

During December 2015, much of the US that drains to the Mississippi River and its tributaries experienced rainfall classified as Much Above Average by NOAA, with Iowa and Wisconsin experiencing Record Wettest months. This led to elevated levels in the Mississippi River by mid-December, with the Corps beginning levee patrol activities south of Baton Rouge on December 14, 2015. A series of additional heavy rains the week of Christmas from Oklahoma to the Ohio Valley further raised levels along the Mississippi, with levees overtopping at West Alton, MO on Tuesday, December 29, 2015. Eleven levees-five on the Mississippi River, three on the Missouri and one on Illinois' Kaskaskia River- had breached by January 4, 2016 mostly under the control of local flood control districts and protecting predominantly agricultural areas.

Flood fighting activities were initiated the length of the main line Mississippi River Levee through Louisiana in early January with the levee patrols instituted full time at the peak of the flood. There was continual monitoring of known seepage areas and places where sand boils had been active in 2011, and careful attention paid to slides to ensure that resources were deployed to those areas that needed priority attention.

As the crest progressed southward, predictions of flows greater than 1.25 million cubic feet per second (cfs) triggered the January 7, 2016 decision to open the Bonnet Carré Spillway on January 10, 2016. This was the earliest opening ever for the Bonnet Carré, and the first time since 1937 that the Spillway had been operated in January. In all, 210 bays of the spillway's 350 were opened, allowing 200,000 cfs to flow

from the River into Lake Pontchartrain. Closing of the spillway gates began on January 25, 2016 and progressed to maintain flow no greater than 1.25 million cfs past New Orleans. The final gates were closed on February 1, three weeks after opening.

Early predictions of a river level of 57 feet and a flow rate greater than 1.5 million cfs indicated that there would be a need to also open the Morganza Spillway. As the flood progressed, however, revised estimates showed a flow reduction to 1.44 million cfs, which allowed the Morganza to remain closed. Even without flows through the Morganza, volumes through the Mississippi drove elevated water levels through the Atchafalaya basin in response, with high levels occurring in Butte Larose and Morgan City.

Rainfall amounts for much of the Mississippi Basin remained near normal for January and February. This changed dramatically in March when a record low-pressure system developed over Central Mexico. This system tapped what meteorologists know as an atmospheric river of moisture flowing from the both the Western Caribbean and the Eastern Pacific. This led to record atmospheric moisture in excess of 200% of normal. The combination of the near stationary extreme low pressure system and the extremely high atmospheric moisture brought rainfall in amounts expected to occur only once in every 200 years in a band across eastern Texas, much of northern Louisiana, southern Arkansas and western Mississippi. The Monroe/West Monroe area received approximately 20.90 inches of rainfall, and Barksdale Air Force Base in Bossier City received 19.00 inches over a 4-day period from Tuesday, March 8, 2016 through Thursday, March 11, 2016.

This rainfall event brought immediate impacts on the communities involved as rainfall buildup flooded lower lying areas. Roads had to be closed quickly in many areas, and two interstates, I-49 in the Shreveport area and I-20 in numerous areas across Louisiana, had to be diverted onto roads that were not inundated. Several roads suffered partial collapse due to massive erosion and complete road failures occurred as culverts failed undermining the roadbed as continuing and excessive storm water volumes were drained through storm water drainage systems into area waterways.

Waterways began to rise with the water that fell within the waterway and that draining from surrounding areas. Much of the storage capacity resident in area lakes was not available due to events earlier in the year resulting in waterways receiving runoff unchecked. Rivers achieved flood levels within a matter of one or two days with emergency officials bringing in resources as fast as possible to mitigate the rising waters and secure local communities. Levee patrols began immediately in areas where seepage had been noted in prior floods, and surveys of levee crown elevations were initiated in areas where sandbagging might be needed.

On March 11, 2016 The Corps initiated a Phase II Flood Fight in the Shreveport Bossier Area beginning 24 hour surveillance where needed. The Red Chute Bayou levee in Bossier City was projected to overtop, and a sandbag addition was done to raise the levee height to meet the flood (see Photo 11). As the flood crest moved southward, emergency plans were implemented, placing super sack sandbags and sand filled Hesco baskets across roads and railroads to close gaps in levees where traffic normally crossed. Photo 12 shows the closure being constructed for the KCS line north of Colfax in

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Grant Parish using super sacks and regular size sand bags which are wrapped in polyethylene plastic to form a water resistant surface.







Photo 12

Outside of Marksville, the Red River flows between non-Federal levees with Brouillette Community on the east and the Vick levee on the west. Two areas along the Brouillette Community levee, approximately 1200 and 1800 feet in length required the vertical addition of a sandbag extension to exceed the projected flood crest. The decision was made to use polyethylene plastic wrapped super sacks in both locations. The sacks were filled and staged at the DOTD Alexandria District yard as seen in Photo 13, then transported to the levee sites on flatbeds operated by the National Guard and DOTD. The sacks were offloaded and placed by the Red River Atchafalaya and Bayou Boeuf (RRABB) levee district and DOTD (see Photo 14) with personnel from all organizations and the Corps assisting in completing the structure shown in Photo 15. Across the river, farmers whose fields are protected by the Vick levee mobilized to add between one and two feet of soil to the levee crown, utilizing the soils from the agricultural fields where feasible. These mitigation efforts helped to minimize flooding in these areas through this event.



Photo 13



Photo 14



Photo 15

A series of federal levees have been constructed in the Jonesville area, which control flooding, and backwater flooding from the Black, Red, and Mississippi Rivers. These levees are being patrolled continually by the TBLD. During these patrols, an area of the Lake Larto to Jonesville levee was discovered to have two adjacent significant slides, which needed to be addressed. The slides were graded over and Hesco baskets deployed to ensure that floodwaters in the area would be handled. The graded area and Hesco arrangement can be seen in Photo 16. Levee patrols are continuing throughout this area as of the end of March 2016 due to prevailing high water, and cautionary viewing of this and other lower priority areas of concern.



Photo 16

THE BEGINNING OF THE NORMAL FLOOD SEASON DRAWS NEAR

If there is good news coming into the "normal" flood season, it's that there is little snow pack north of the state, so the normally experienced snowmelt and river rise should be minimal.

With an El Nino event continuing, however, the southern branch of the jet stream is active and persistent, and capable of producing low-pressure systems such as the record-breaking system responsible for the storms that began March 8, 2016. As of the last day of March, yet another storm system is predicted to bring rains of up to 6 inches in areas across much of Arkansas with areas of Mississippi and Tennessee affected with much of central and northern Louisiana predicted to receive up to 2 additional inches. As the El Nino event continues, chances are the sub-tropical jet stream could remain as active and persistent as it is currently. This set of circumstances typically produces a wet season which could continue until the El Nino weakens, normally anticipated into the spring.

Susan Douglas works in the levee safety group at DOTD where she is involved in inspections and reporting.

ASCE National Legislative Washington D.C. Fly-In By Kahli Cohran, PE

The Government Relations Committee (GRC) had a very active first quarter of 2016 which was centered around the national legislative fly-in held in Washington DC. ASCE members Dr. Kam Movassaghi, Kahli Cohran, Dr. Norma Jean Mattei, and Nedra Davis met with members of our Louisiana Congressional Delegation to encourage them to support infrastructure funding. We had the opportunity to meet personally with Representative Garrett Graves and Senator David Vitter, along with their support staff.



Congressman Garret Graves (R-LA) was the keynote speaker for the ASCE National Fly-in.

The tenor appears to be changing in Washington and around the country regarding our infrastructure needs. While there, our primary issues of focus were dialed in on a few significant legislatives items: The Water Resources Development Act (WRDA) 2016, Water Infrastructure, and FY 2017 Appropriations. Our position was for Congress to pass a new Water Resources Development Act (WRDA) in 2016. Keeping WRDA bills on a twoyear cycle gives non-federal sponsors certainty in project development, keeps the cost of projects and the legislation manageable, and provides congress oversight opportunities over important Army Corps programs. In addition, appropriators should fund WRDA 2014 programs at their authorized levels. As a small testament to our impact, on April 28th, the WRDA bill quickly cleared the Senate Environmental and Public Works Committee. The bill includes significant proposed projects to protect St. John the Baptist, St. Charles, and St. James parishes on the east bank of the Mississippi River from future hurricanes, as well as authorizes work on the Calcasieu Lock, which Louisiana Republican Sen. David Vitter's office said "will reconstruct an aging lock system, ensuring safe, reliable transportation along the Gulf Intracoastal Waterway."

An additional area of focus was Federal Aviation Administration (FAA) Reauthorization and advocating for the use of Qualification Based Selection (QBS) on aviation projects funded outside of the core Airport Improvement Program (AIP) funds. When using AIP funds, airports utilize a Qualifications-Based Selection (QBS) process to procure high-quality architectural, engineering and design services on their capital projects. Federal procurement rules do not apply to projects funded with Passenger Facility Charges (PFC). Even though PFC funding is derived through congressional authorization which defines funding caps and project eligibility, the selection of architectural and engineering firms on PFC projects is governed by state and local laws. As such, it is possible that architectural and engineering services could be procured in a less effective and less efficient manner than QBS provides.

While numerous hurdles exist, it was refreshing to find that a number of our Louisiana delegates and their staff are very informed of the state of our nation's and local infrastructure and were very receptive to our specific insight concerning the aforementioned issues. The sentiment seemed to be consistent among many of our ASCE counterparts from around the nation. Many expressed positive feedback as there was a sense that many at the highest levels of government are becoming aware of a national infrastructure problem, and the momentum seems to be shifting towards fixing it.



President-Elect Norma Jean Mattei brought the civil engineering perspective on infrastructure to a conversation with Sen. David Vitter during the Fly-In. Vitter is not only a senator from Mattei's home state of Louisiana, he is also chairman of the Senate Subcommittee on Transportation and Infrastructure. Photo: David Hathcox for ASCE

Multi-Regional Conference Highlights

On February 12, 2016, I attended the Multi-Region Leadership Conference in Pittsburgh, PA. The high temperature over the conference was around 10°F. I sure was glad to get back to the warmer weather in Louisiana. Regions 1, 2, 4 and 5 were represented at the workshop and it was well-attended by the Louisiana Branches. The workshop kicked off with an activity to learn about the organization of ASCE and a chance to meet the region directors and governors. To conclude the opening session, the national leadership introduced its three strategic initiatives for the society: Sustainable Infrastructure, The Grand Challenge and Raise the Bar.

Next, we had a seminar about leading through emotional intelligence. The seminar introduced me to identifying and managing my own emotions, recognizing and understanding other people's emotions and using that information to lead by guiding thinking and actions. As a group, we worked through several activities to identify the emotions we felt in certain scenarios and discussed different ways to lead when presented with different emotions. The session leaders challenged us to develop strategies to grow our emotional intelligence and use it while leading others.

The rest of day one was filled with networking events and time to meet with the national leadership. There was a great turnout of student and younger members from across the regions. I learned of several new leadership methods and fresh ideas from the students that can be implemented at the branch and section level. This was a great workshop for leadership development, and the



Norma Jean Mattei, PhD, PE, Mark Woodson, PE and Tom Smith Society Leaders Q&A



Jarret Bauer, PE snow angel

students and younger members benefit greatly from it. I encourage our student chapters and younger members to send representatives to future workshops.

On day two, I attended two focus sessions, "Engaging Younger Members" and "Student Members and Following up on the State Report Card." These were sessions where we openly discussed methods to attract and retain members and steps after the release of a state report card. In regards to membership, several methods that were well received included emphasizing good communication with student chapters, branches sponsor events with student chapters (tailgates, parties, job fair) and have roles for younger members to encourage them to lead at the branch and section level. In the state report card session, I learned some good ideas about releasing an updated report card, such as synchronizing the release of the report card with the gubernatorial election, linking the report card to the website or other platform to distribute it out digitally. One thing they emphasized was making sure the grading scale and data are consistent with your previous data and the national report card. Louisiana received a lot of praise from other branches for our 2012 report card.

On the whole, I thought the workshop was informative and well organized. I would encourage future leaders within the society to attend this workshop. You get to meet members from across multiple regions, and you will also learn valuable leadership skills that will help guide the society and profession.



Jarret Bauer, PE (Baton Rouge Branch), Greg Scott, PE (Pittsburgh Section), Matthew Redmon, PE (Louisiana Section) and Sarah Laakso, PE (Baton Rouge Branch)



Matthew Redmon, PE snow angel

Spring Conference in Shreveport Success

The Shreveport Branch hosted the 2016 Louisiana Section Spring Conference on Thursday, April 28th & Friday. April 29th at the Shreveport Convention Center in downtown Shreveport. This year's 110 registrants, over 20 student registrants, 18 sponsors, and 14 exhibitors made it a record conference for the Shreveport Branch.

The conference included 23 different presentations and the opportunity to obtain 13 PDH's in a wide variety of topics. Thursday's luncheon and awards banquet featured keynote speaker and ASCE National President – Elect Dr. Norma Jean Mattei, PhD, PE along with the recognition of this year's ASCE life members. Thursday evening's meet & greet was a big hit as conference attendees got the chance to relax and enjoy each other's company after a long day. Friday's luncheon featured the presentation of our student awards as well as the section general membership meeting. The conference was concluded with the section board meeting. Minutes from both section meetings can be obtained from Malay Ghose Hajra, PhD, PE at mghoseha@ uno.edu.

We want to say a special thanks to the sponsors and exhibitors who came out in droves to support us. Each year, we are able to waive registration fees for our students and speakers; we could not do this without the help of our sponsors and exhibitors. Finally, we want to thank those who attended the conference making it a record year. We look forward to seeing you all in Lafayette in 2017.



Jerry Kleir, PE presents the 2016 Distinguished Civil Engineer Senior Student Awards at the Spring Conference



James Bowie (middle), PhD, PE receives his Life Member Award from Matthew Redmon, PE (left) and Christopher Humphreys, PE (right)



Shreveport Branch puts on another great conference (L to R) Mitch Guy, PE, Chris Myers, PE. Joy Etkins, EI, Marcus Taylor, PE, Jared Boogaerts, EI, and Tim Wright, EI

AMERICAN SOCIETY OF CIVIL ENGINEERS LOUISIANA SECTION DISTINGUISHED CIVIL ENGINEERING SENIOR STUDENT FOR CALENDAR YEAR 2016

Stephen Borengasser University of New Orleans

Cody Emanuel Gay Southern University



to R - Dr. Gianna Cothren (ASCE UNO Faculty advisor), Stephen Borengasser, Distinguished Civil Engineering Senior with ASCE National President Elect Norma Jean Mattei, PhD, PE



Cody Emanuel Gay, Southern University Distinguished Civil Engineering Senior with LA Section President Christopher Humphreys, PE



Jonathan Trahan University of Louisiana at Lafayette



Jonathan Trahan, ULL, Distinguished Civil Engineering Senior with LA Section President Christopher Humphreys, PE

Amy Olson (not pictured) Louisiana State University

Katherine Lybrand



Katherine Lybrand, La. Tech, Distinguished Civil Engineering Senior with ASCE National President Elect Norma Jean Mattei, PhD, PE

Tory Miller (not pictured) McNeese State University



ASCE 2016 CONVENTION PORTLAND, OREGON SEP. 28 - OCT. 1



IMPORTANT DATES

MAY 11	REGISTRATION
2016	OPENS
JUL 28	EARLY BIRD REGISTRATION
2016	DEADLINE
AUG 25	ADVANCED REGISTRATION
2016	DEADLINE
AUG 26	ONSITE REGISTRATION
2016	BEGINS
SEP 6	HOTEL BOOKING
2016	DEADLINE
SEP 8	CANCELLATION/REFUNDS
2016	BE RECEIVED BY

TOP REASONS TO ATTEND ASCE 2016

- Thought provoking interdisciplinary education, inspiring and enlightening keynote speakers, tours, short courses and networking opportunities with potential clients and project team leads
- Continuing education up to 20 Professional Development Hours (PDHs)
- America's Greenest City Discover why Portland was named the greenest city in 2015 by Travel + Leisure, from its top ranked mass transit to its sustainable eating
- · Portland, Oregon experience the best street food in the world with over 700 food carts throughout the city

CONVENTION TOPICS

We're addressing the things that matter to you

- State of the industry and profession
- Professional development
- Multi-disciplinary technical
- Natural & man-made disasters
- Strategic issues / public policy
- Significant projects
- History & heritage



Join Us for the 2017 ASCE Report Card on Louisiana's Infrastructure!

By Christopher Humphreys, PE, Section President

On behalf of the ASCE Louisiana Section Officers and Board of Directors it is with pleasure that I announce that Dr. Kam Movassaghi and Jan Evans have accepted the roles of Executive Director and Deputy Director respectively for our 2017 Report Card for Louisiana's Infrastructure. Kam brings unique insight having worked throughout his career as a champion of public awareness of the condition of our aging infrastructure. He has over 44 years of industrial, academic, public and private civil engineering experience including his time as the former Secretary of the Louisiana Department of Transportation and Development. He also brings the experience of serving as Executive Director of our first report card in 2012. Jan Evans has served in leadership roles throughout her career as an owner and executive with over 35 years of experience in civil engineering design and construction. She has proven team building and leadership skills that will serve us well as she directs the technical committees in development of the report card. Kam, Jan and the entire team will be supported by the Executive Board,



OUR FUNDAMENTAL CANON which includes many of the 2012 Report Card committee members.

Our 2012 Report Card is recognized as a model for other ASCE Sections and has been the primary tool used to educate the public and our elected leaders on the condition of our infrastructure. Since the publication of our 2012 report card our



Christopher Humphreys, PE

infrastructure has continued to age and needs for capacity upgrades and repairs have increased. State and federal budgets are stressed while costs to maintain the existing condition of our infrastructure and address vitally needed capacity upgrades continue to rise. It is important that as Civil Engineers we keep the public informed and demand that our political leaders prioritize funding to address these public safety and economic development needs. The 2012 Report Card will serve as the basis and starting point to be updated and improved with the 2017 Report Card which will continue to be our best tool to educate the public and our political leaders of the need for funding our infrastructure needs. I thank everyone involved for their commitment to this important initiative. I look forward to the 2017 Report Card which I'm sure will maintain the high standard previously set. Please contact Jan Evans at jan. evans@volkert.com to get involved.



ENGINEERS SHALL HOLD PARAMOUNT THE SAFETY, HEALTH AND WELFARE OF THE PUBLIC AND SHALL STRIVE TO COMPLY WITH THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT IN THE PERFORMANCE OF THEIR PROFESSIONAL DUTIES.

Compression Index Correlations for Southeast Louisiana

By George F. Segré, El

INTRODUCTION

Generally, low budgets allocated for geotechnical investigations may result in a limited subsoil investigation6, 7. Thus, empirical correlations are often utilized in order to perform some of the standard calculations. Soil structure depends on the myriad of variables which lead to its formation, and as a heterogeneous and anisotropic medium, the use of these empirical correlations may lead to unforeseen consequences whenever the applicability of a correlation to the subject site is unknown or not well established.

In Southeast Louisiana (SELA), the naturally occurring soft subsoils causes considerable consolidation settlements. Louisiana area was created by the depositional regime of river deltas during the geologically identified Holocene Age (previous 10,000 yrs.). As the rivers traversed what is now Louisiana, geospatial variations in the depositional regime of sediment loads lead to variations in the subsurface conditions. Limited budgets for geotechnical investigations often means that one-dimensional consolidations tests are omitted, and therefore estimates of consolidation settlements are based on empirical correlations.

The compression index (Cc), which expresses the load deformation behavior of a given soil undergoing virgin compression is of paramount importance in estimating consolidation settlements. In SELA, a majority of the subsoils consist of under- to normallyconsolidated soils. Consolidation settlements (for these type of soils) are calculated using the following equation:

$$\delta = \frac{C_c}{1 + e_o} H * \log\left(\frac{\sigma'_o + \Delta\sigma}{\sigma'_o}\right)$$

The compression index is typically correlated to more easily determined soil index properties such as liquid limit (LL), natural

Eq. No.	Correlation $C_c = *$	Soil Type*	
1	$0.009(LL-10)^{-1,2,4,5,8,9,10}$	Remolded Clays ⁴ Organic Soils with sensitivity less than 4 ^{9,10} Normally Consolidated Soils ^{5,8}	
2	$0.01(LL-13)^{-1,10}$	Clays ¹⁰	
3	$0.0115W_n^{5,9,10}$	Organic Soils ^{5,9,10} Peat ^{5,8,9}	
4	$0.012 W_n^{-10}$	Clays ¹⁰	
5	$0.01 W_n^{4}$	Chicago Clays ⁴	
6	$0.3(e_o - 0.27)^{-4,5}$	Inorganic Cohesive Soil ^{4,5}	
7	$0.156 e_o - 0.0107$ ⁴	All Clays ⁴	
8	1.15($e_o = 0.35$) ^{4,5,9,10} All Clays ^{9,10} All Clays ^{4,5}		
9	$(1 + e_o)(0.1 + 0.006(W_n - 25))^{9,10}$	Varved Clays ^{9,10}	
10	$0.37(e_o + 0.003LL - 0.34)^{-1}$	n/a	
*Superscript refers to reference.			

Table 1: Predominant Compression Index Correlations from Literature

moisture content (Wn), initial void ratio (eo), specific gravity (Gs), etc.

There are many compression index correlations provided in the geotechnical literature. Some publications omit the soil type with which the correlation may be employed and others omit the working range.



George F. Segré, El

It is not the purpose of this paper to append another correlation to the existing body of knowledge, but rather compare some of the more prevalent correlations from literature against laboratory data in order to determine which correlations provide a more accurate or refined estimate of the compression index.

REVIEW OF LITERATURE

In the author's opinion, the more prevalently used texts aiding in the estimation of the compression indices include USACE EM 1110-1-1904, NAVFAC DM 7.01, and geotechnical textbooks from such authors as Terzaghi, Holtz & Kovacs, Bowles, Das, Coduto, and Budhu.

Table 1 lists the predominant correlations found within these referenced texts. The table also lists the cited soil types for which the equation should be used.

SCOPE & METHODS

A dataset comprised of over 300 consolidation tests and associated index properties obtained and gathered by the author's firm along with similar data from furnished geotechnical investigations are used herein to discern the applicability of these correlations. The dataset consists of soil samples obtained from Southeast Louisiana. Geologically, they all consist of Holocene Age deposits and more specifically, the dataset was limited to normally consolidated samples.

The compression index of the sample was determined based on its index properties and compared against results from consolidation testing. Test results plotting above the line with a slope of unity, or 1H:1V line, are said to be conservative, thus overestimating the magnitude of consolidation settlements. Conversely, results plotting below this line could be said to be aggressive. Figure 1a thru 1e summarizes the considered correlations. For a more quantitative measure, the Root Mean Square Error (RMSE) was calculated for each correlation. The RMSE value provides a numeric indicator of the difference between the computed value and the expected value.

$$RMSE = \sqrt{\frac{1}{N} * \sum (C_{c \ tested} - C_{c \ correlated})^2}$$



RESULTS AND DISCUSSIONS

Correlations to Liquid Limits:

Results obtained from Eq. 1 and 2 are fairly similar. They both result in somewhat conservative estimates which hover around the line of unity up to about a laboratory determined compression index of about 1.0. Beyond this value, correlated compression indexes are observed to be almost exclusively under predictive and trend away from the line of unity as compression indices become greater. For Eq. 1 and 2, a compression index of 1.0 is obtained with a liquid limit of about 115 on average.

Correlations to Natural Moisture Contents:

Equations 3 thru 5 are the simplest equations available, and yet result in strong correlations. For the most part, results are generally slightly conservative up to about a compression index of 1.0 (Wn = 86% thru 100%) for all three correlations.

Correlations to Initial Void Ratio:

Results obtained from the use of *Eq. 6 and 7* are observed to deviate from the line of unity and under predict the actual compression index. Conversely, *Eq. 8* over predicts the compression index. The author assumes that for the most part, the void ratio was obtained using an assumed specific gravity, thereby introducing a source of error into the equation.

Correlations to Initial Void Ratio & Natural Moisture Content:

Results obtained from the use of *Eq. 9* are highly over conservative and deviate significantly from the line of unity around a compression index of 0.75. This equation compounds the contribution from the initial void ratio and moisture content, which are interrelated.

Correlations to Initial Void Ratio & Liquid Limit:

Results obtained from the use of *Eq. 10* are somewhat aggressive. For the most part, little scatter is observed, but compression indices are under predicted after about a value of 1.5.

Statistical Interpretation

The RMSE provides the mean error from the line of unity between the tested and estimated, thus large numbers indicate a poor fit. Table 2 summarizes the RMSE for all of the correlations considered.

Equation No.	RMSE for Cc < 1.0	RMSE for All Cc	Equation No.	RMSE for Cc < 1.0	RMSE for All Cc
1	0.20	0.48	6	0.22	0.46
2	0.22	0.47	7	0.33	0.69
3	0.15	0.22	8	0.74	1.20
4	0.16	0.22	9	0.25	2.23
5	0.13	0.28	10	0.13	0.29

Table 2: RMSE Summary of Correlated Equations

Values in Table 2 are provided for the entire dataset and for compression indices less than 1.0. It was observed that many correlations deviate significantly above this threshold, therefore this value was assumed to be an appropriate working range for the presented correlations. In identifying this threshold, it can be seen that a significant reduction in the RMSE is observed for all cases.

CONCLUSIONS

Ten equations from widely used references were used to compare laboratory-determined compression indices of normally consolidated SELA soils to their empirical correlations. For practicing engineers in SELA, the use of some of these equations may result in highly erroneous estimates. Although it is preferred that laboratorydetermined parameters be employed, the following is provided:

- The use of *Equation 1 & 2* offers similar deviations and tend to greatly under predict the compression index when the Liquid Limit is found to be greater than about 115.
- The use of *Equations 3 thru 5* are essentially the same, however *Eq. 4* provided a better fit for moisture contents above 300%.
- The use of *Equations 6 thru 9* is not recommended for this geographic area.
- The use of *Equation 10* was observed to indicate a fit comparable to those of *Equations 3 thru 5,* and could be used as an aggressive estimate.

Although it may seem counterintuitive to estimate the compression index with such a simplistic parameter, the data shows that the initial moisture content serves as a predictor. Additionally, moisture content is more accurately and easily determined than the other index properties.

continued on next page

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George F. Segré, EI received his B.S. and M.S. from Syracuse University with a focus in Geotechnical Engineering. He has been with Ardaman & Associates, Inc. since 2013.

CAPITOL VIEW: FROM HAYNIE AND ASSOCIATES ASCE | GOVERNMENT RELATIONS

On November 21st 2015, the Louisiana citizens voted to elect democrat John Bel Edwards, a State Representative from the small town of Amite in Tangipahoa Parish, as their Governor. Edwards won with 56% of the vote beating long-time frontrunner, U.S. Senator David Vitter. Familiar faces to State government have populated the Governors' Cabinet appointments. These include positions of interest such as Secretary of DOTD- Shawn Wilson, CRPA- Chairman Johnny Bradberry, and Division of Administration Commissioner- Jay Dardenne. The leadership role of Senate President firmly remains with John Alario, while the House of Representatives displayed an unprecedented independence as they elected New Iberia Republican Taylor Barras as the new Speaker of the House. Committees of interest such as Transportation, Commerce, Appropriations and Ways and Means have new chairman and many new members, which necessitates the continual education of legislators who serve on these panels who make decision that impact your business and profession.

Governor John Bel Edwards called the legislature into a special session in February and March to raise revenue and they were successful to some degree in closing much of the general fund budget shortfall for Fiscal year (FY) 15-16 but an estimated \$700 Million shortfall remains for the fiscal year 16-17. The state's infrastructure funding needs were not addressed during the recently concluded special session. The legislature are currently in regular session March 14th and adjourn June 6th. During this regular session one bill of particular concern for your membership is SB 59 by Senator Danny Martiny which seeks to force LAPELS to allow an experience exception to the current longstanding requirement that to be licensed as an engineer in Louisiana you must pass the FE

exam. I highly encourage you to contact members of both the House and Senate Commerce committee to express your concern with this weakening of licensing standards as both a public safety concern and as a matter of fairness to the Louisiana engineers who have completed the nationally accepted best practice required testing.

With a \$700 Million shortfall remaining for FY 16-17, the state budget will need to be passed with major cuts this session, as by the constitution the legislature cannot raise additional revenue until we get out of the regular session June 6th – necessitating a likely special session later this summer (June or July) to address the budget shortfall and repass the state budget possibly restoring the cuts. It is during this next special session during the summer that infrastructure funding we anticipate will be included in the Governors special session call and when ASEC will be called to contact their legislators in support of much needed infrastructure funding solutions (likely a statewide gasoline tax). Your 2012 Infrastructure Report Card will need to be front and center with the decision makers to aid them in making the right decisions for our states' huge and growing infrastructure needs. Please be in the lookout and be willing to make a phone call or send an email in response to any "call to action" emails you receive from ASEC while the legislature is in session. Haynie and Associate's is appreciative of the new relationship that has been formed with ASCE and it is our goal to further promote your organization to decision makers as the technical experts of the civil engineering profession, and to further the goals set out by your organization, including infrastructure funding and professional standards. We can be reached anytime at ryan@haynie.com or 225.336.4143 and more information on our firm can be found at www.haynieandassociates.com.

ASCE-COPRI Louisiana Chapter News

By Erin Rooney, PE, Director - Communications



PORTS AND RIVERS INSTITUTE Louisiana Chapter

The Louisiana Chapter of the American Society of Civil Engineers (ASCE) Coasts, Oceans, Ports, and Rivers Institute (L.COPRI) is continuing to promote membership and visibility throughout the State of Louisiana by conducting joint seminars with local Branches and State Sections of ASCE.

L.COPRI Represented at COPRI **Council of Committee Chairs**

On Thursday January 28th, Tyler Ortego represented L.COPRI at the COPRI Council of Committee Chairs at ASCE Headquarters in Reston, Virginia. At this annual meeting, leaders from the local chapters and various committees convene to share best practices and coordinate on activities that support COPRI's ASCE mission. Despite the prior week's record breaking snow storm, the meeting was well attended. A number of student chapters were represented as well, including LSU. The L.COPRI executive committee would like to encourage all members to consider attending one of COPRI's flagship events, the PORTS '16 Conference, to be held in New Orleans in June. Also, many of the committee chairs expressed a desire for committed volunteers. Information on the PORTS conference can be found at http://www.portsconference.org/. A full list of committees and subcommittees can be found at http:// www.asce.org/coasts-oceans-ports-and-rivers-engineering/copricommittees/.

P3 for Waterways Infrastructure Symposium – New York

The P3 for Waterways Subcommittee held a second workshop on P3/P4 in New York City on January 22, 2016 attended by nearly 75 representatives of Non-Federal Sponsors including the NY/NJ Port Authority, the NY Resiliency Office, Waterfront Associations and others. This workshop followed the successful New Orleans Workshop. USACE Leader, Edward "Eddie" Belk, Jr., Chief of Operations and Regulatory Division for the Civil Works Directorate of the USACE presented the Corps' Infrastructure Strategy Overview and P3/P4 Review. Eddie Belk calls it "a giant math problem" stating that they are facing billions of dollars worth of infrastructure projects in the gueue and not nearly that much money in the till. "We're not sitting around wringing our hands saying, 'Woe is me," Belk told the ASCE Industry Leaders Council (ILC) at its March meeting and at the Workshop in New York City in January. "We're doing something about it." Part of that "something" is the use of private-public partnerships, or P3s. P3s unite public sector



Mr. Belk discussed the three characteristics and four benefits of successful P3s, which are reproduced below.

Three Characteristics of Successful P3s

1. Life-Cycle Perspective: Private partner provides full upfront financing with bundled project delivery across phases (any combination of design, construction, operations, maintenance, and/or rehab).

2. Incentivized Risk Sharing: Private partner assumes substantial risks for compensation based on key performance outcomes.

3. Public Ownership: Public partner retains project ownership and ultimate control.

Four Benefits of Successful P3s

- 1. Faster delivery of infrastructure
- 2. Life-cycle cost savings

COPR

- 3. Incentive-driven performance results
- 4. Single source of accountability

PORTS '16 Conference – New Orleans

Register by May 3 and save \$50! PORTS '16 will be held in New Orleans, LA, June 12-15, 2016 at the New Orleans Marriott. The theme is "PORTS: Gateways to a World of Opportunities", and includes 45 Technical Sessions; 8 broad-ranging, practice oriented Short Courses; a full Exhibit Hall featuring the latest developments in port and coastal engineering, maritime construction, ground treatment technologies, and a variety of port applications.

continued on next page

ASCE-COPRI Louisiana Chapter News, continued from page 15

The Opening Plenary will feature Dr. Robert Ballard, recipient of the ACEC Distinguished Award for Merit in 2015. Dr. Ballard is among the most accomplished and well known of the world's deep-sea explorers. He is best known for his historic discoveries of hydrothermal vents, the sunken R.M.S. Titanic, and the German battleship Bismarck.

Sponsorship and Exhibitor opportunities are still available; please contact Sean Scully (sscully@asce.org) with any questions about available options. The PORTS Conference series is internationally recognized as an outstanding opportunity to network with hundreds of practitioners, researchers, and specialists at the leading edge of the port engineering profession. For the most up-to-date information, please visit http://www.portsconference.org/.

ASCE OTC Hall of Fame Gala 2016

Join us in Houston, TX on Tuesday, May 3 for the 11th Annual ASCE OTC Hall of Fame Gala www.asce.org/hall-of-fame. We will honor the authors of six outstanding papers submitted to the Offshore Technology Conference over 20 years ago. These papers have had a lasting impact on the industry, and form the core of current practice. Tickets, tables and Sponsorships are available now. Contact Angie Lander alander@asce.org for general information, tickets and table sales, or Sean Scully sscully@asce.org for Sponsorships.

Other Information

For more information on all COPRI conferences, please visit http:// www.asce.org/coasts-oceans-ports-and-rivers-engineering/ coastal-engineering-conferences-and-events/.

The activities of L.COPRI will include seminars, workshops and other activities to benefit all ASCE and COPRI members. One does not have to be an Engineer to join COPRI. These Institutes are formed for the benefit of ASCE and non-ASCE members to participate and interact with other professionals interested in coastal, oceans, ports, and riverine efforts in Louisiana. If you have any questions or to add your name to our mailing list, please contact Erin Rooney, at LCOPRI@yahoo.com.

ASCE-T&DI Louisiana Chapter News By Joffrey Easley, PE - Newsletter Editor

Louisiana State Science and Engineering Fair

The Louisiana State Science and Engineering Fair was once again held at the LSU Student Union Royal Cotillion Ballroom in Baton Rouge on March 22nd and 23rd. Several T&DI members served as judges for both the Junior and Senior Divisions and presented a \$200 award for first place and \$100 award for second place for the top transportationrelated projects in each division. In the Junior Division, the First Place Award went to Mason Donadieu for his project entitled "Soarin' with Paper Airplanes". Second place went Sam Davidson for his project "Efficient Propeller Design". The Senior Division First Place Award went to Meridith Guidry and Aniko Nowakowski for their project "Glow in the Dark Concrete". The Second Place Award went to Kaylee Deroche for "Portland Cement Strength Variation with Sand Additive". Congratulations to all winners!

Developments in Transportation ITS Seminar

On February 17th, the T&DI Louisiana Chapter hosted a seminar on the ITS infrastructure in Baton Rouge. Part I of the seminar provided



TRANSPORTATION & DEVELOPMENT INSTITUTE

an overview of the existing ITS infrastructure, and also outlined some planned improvement projects. Part II presented some on-going research on connected vehicles that is taking place using the LSU Department of Civil and Environmental Engineering Driving Simulator. The seminar was held at the TTEC Auditorium at LSU's campus in Baton Rouge. The speaker was Dr. Sherif Ishak, PE, who is a Professor and Interim Associate Dean for Academic Affairs in the College of Engineering at Louisiana State University.

Pavement Engineering Seminar on Mechanistic-Empirical Pavement Design Guide

Continuing with the goal of providing training for transportation engineers in Louisiana, the T&DI Louisiana Chapter hosted a seminar on April 20th at the University of New Orleans on the Pavement ME Design Guide. The seminar presented the fundamental concepts in the development of the Pavement ME design guide, the new design guide to the 1993 AASHTO design guide, and discussed the effect of traffic, climate and materials (asphalt,

concrete, and soil) on pavement design when using the new design

guide. The speakers were Chris Wagner, PE, with FHWA and Mark Ordogne, PE, who is a pavement design engineer with LADOTD.

Mississippi River Intermodal Terminal and Yard Improvement Project Seminar

On May 19th, the T&DI Louisiana Chapter, together with the Port of New Orleans, hosted a seminar on the Mississippi River Intermodal Terminal and Yard Improvement Project that was recently completed at the Port of New Orleans. With the completion of this project in March 2016, the new on-dock intermodal railyard is able to provide the Port's Napoleon Avenue Container Terminal with access to the six Class I railroad yards located in New Orleans and provides 10,000 linear feet of rail track along with five acres of heavy duty concrete paving for container marshaling. Two gantry cranes transfer the containers to and from the rail cars. The railyard is capable of handling 160,000 TEUs per year with one track turnover per day. The project provides a more efficient intermodal railyard and has freed up valuable container marshaling space for the planned expansion of the Napoleon Avenue Container Terminal. The seminar provided an owner's perspective on how the project was conceived, funded, planned and constructed. The seminar was held at the Port of New Orleans. The speakers were Jacob Crist, who is a licensed Louisiana Realtor and a Certified Port Executive, William Rivera, PE, who is a senior Project Manager for the Port of New Orleans, and William J. Meliet, PE, who is the Senior Construction Manager for the Port of New Orleans.

Upcoming Seminars

The Alternative Concrete Bridge and Deck Systems seminar that was scheduled to be held at the TTEC Auditorium on the campus of LSU in Baton Rouge in March had to be rescheduled. Check your in-box for an announcement once the revised date is finalized.

Looking Ahead

The intent of T&DI is to promote transportation and development as a career path, and to provide training and networking opportunities for all professionals involved in transportation projects. If you are interested in co-sponsoring a seminar at your branch, the T&DI Louisiana Chapter has prepared a Seminar Coordinator's Check List to assist you in your preparation. Contact Ronald Schumann, Jr., at RSchumann@aol.com for a copy of the checklist. Our seminars are two hours in length and are typically presented from 5:30-7:30 pm in either the New Orleans or Baton Rouge area. We have also presented out-reach seminars with the ASCE Acadiana Branch and Shreveport Branch. We are open to co-hosting seminars in additional Louisiana cities if requested. In keeping with the intent of the Institute to provide training and networking opportunities for all professionals involved in transportation projects, in addition to the upcoming seminars listed above, the Chapter is also planning the following future seminars:

- Mitigation Banking NEPA Method
- Sustainable Rating System for Public Works Projects
- Complete Streets from the Users Point of View
- Pavement Engineering (Part 3 of 3) Application of Earthwork and Embankment Materials



Junior Division Science Fair Winners – Mason Donadieu and Sam Davidson



Senior Division Science Fair Winners – Meridith Guidry and Aniko Nowakowski and Kaylee Deroche



Dr. Sherif Ishak, Speaker for Transportation ITS Seminar

Branch News

ACADIANA BRANCH

By Sarah Richard, El, Branch President

Due to job demands and demands from pursuing a PhD at the University of South Alabama, our branch President, Garland Pennison, is unable to fulfill the remainder of his term. Therefore, I am taking over the office of President for the remainder of the 2015- 2016 term. Our thanks to Garland for his service to the branch, and we wish him the best of luck in his endeavors. You will be in the capable hands of Sasan Daneshvar, the current ASCE Acadiana Branch Treasurer, as President for the 2016-2017 term.

The Acadiana Branch had a successful February luncheon hosting Dr. Thomas W. Doyle, Deputy Director of the U.S. Geological Survey at the Wetland and Aquatic Research Center. He provided a very interesting technical presentation on Understanding and Dealing with Sea-Level Rise for 1 PDH.

McNeese State University did an outstanding job hosting the ASCE Deep South Conference this past weekend, and despite the bad weather, 12 of the 13 universities were able to make it to the Conference. We would like to thank all of those who attended, volunteered, or sponsored the event.

In March, the board unanimously voted to appoint Pamela Gonzales-Granger with McBade Engineers to the position of Practitioner Advisor for the UL Lafayette ASCE Student Chapter. We thank Mrs. Pamela Gonzales-Granger for her support and willingness to serve.

The Acadiana Branch had a successful March luncheon at Abacus Event Center hosting Dr. Vijaya (VJ) Gopu, Associate Director for External Programs at Louisiana Transportation Research Center. He provided a very interesting technical presentation on Automated & Connected Vehicles - Issues, Challenges & Opportunities for 1 PDH

In an effort to recruit new and younger members, the Branch hosted a happy hour on March 31st at 5:30 pm. The event was sponsored by Royal Engineering and was be held at Royal Engineering's office at 1231 Camellia Blvd. Beverages and food were complimentary. Afterwards all were welcome to walk to Rhythms on the River at the Square in River Ranch. The social was very well attended.

A few weeks ago, ASCE Acadiana Branch along with IEEE and LES hosted a crawfish boil at the big pavilion at Girard Park. It was very well attended with 167 total registrants.

The May meeting will be held in Lake Charles at the SEED Center. In an effort to reach out to our underserved regions, the Acadiana Branch with the help of the Louisiana State Section will be offering a half-day conference with 3-1 hour presentations from 9 am to 12 pm and a 1 hour ethics presentation over lunch. Registration will begin at 8 am with coffee service, and the cost will be \$35 for professionals and free for students.

The ASCE Acadiana Branch now has a LinkedIn page and a Facebook page. Please "like" us on Facebook and join us on LinkedIn to stay connected with the branch and receive information on upcoming events and photos from past events.

The branch board is seeking nominations from the Acadiana Branch to serve as a board member for the coming year, so if there is anyone who would be interested in serving, please contact me. Elections will take place at the May meeting.

We are also looking for volunteers from our underserved regions to act as liaisons. This person would assist us in serving those regions by hosting meetings in their area on behalf of the Acadiana Branch.

The Acadiana Branch will be hosting the Spring Conference in 2017, and we are looking for sponsors, speakers, and exhibitors for this event. The tentative dates are April 26-27, 2017. A committee consisting of volunteers and current and future officers have started the early stages of planning.

Sarah Richard, El SarahR@dsaengineering.com ASCE Acadiana Branch President

NEW ORLEANS BRANCH By Wesley Eustis, PE, Branch President

In February, the New Orleans Branch hosted Keith Bergeron, an attorney with Deutsch Kerrigan. Mr. Bergeron gave an ethics

attorney with Deutsch Kerrigan. Mr. Bergeron gave an ethics presentation on appearing before a licensing board and gave some helpful insights on practices we as engineers can use to avoid appearing before any licensing board. In March, the New Orleans Branch hosted Dr. Sarah Mack of Tierra Resources. Dr. Mack presented her research on wetland preservation through the use of strategic mangrove plantings. On April 21st, the branch hosted its first annual Spring ocial at the Mid City Yacht Club. It was an evening happy hour event that was well attended by over 70 local members and is an event we hope to continue in the future. On May 5th, our younger members committee will be hosting a leadership panel and networking social. The leadership panel will include members from Jefferson Parish Engineering, Boh Bros. Construction, Eustis Engineering, Deborah Keller & Associates, and Digital Engineering. On May 17th, the branch will hold its monthly luncheon with Jennifer Larmeu from the City of New Orleans presenting on the Green Infrastructure program in New Orleans.

BATON ROUGE BRANCH

By Danielle Welborn, PE, Branch President

2016 is proving to be an exciting year for the Baton Rouge Branch! We have had fabulous speakers, a wonderful infrastructure funding awareness campaign, awarded a deserving senior a scholarship, and are looking forward to some prominent luncheon speakers.

Our January and March luncheons were very well attended, which was no surprise, because of the interesting speakers and topics that were offered. Dr. John Pardue gave wonderful insight into the world of bioremediation and how it is used in treatment systems and was used as a response to the oil spill. In February at the LES Engineering Week Banquet, we presented Miss Amy Olson, a senior at Louisiana State University, with a \$1000 scholarship. Amy has been a leader in the student chapter of ASCE, maintains an impressive GPA in Civil Engineering, and will be obtaining a minor in Environmental Engineering. Congratulations to Amy!

Mr. Andrew Maas kept everyone's attention at the March luncheon as he explained the true terms of software agreements and how 'intellectual property' pertains to professional engineers. As an engineer himself, he was able to relate the legal world to the engineering world in a fun way.

Also in March, the Louisiana infrastructure funding campaign ran on billboards in Baton Rouge, Shreveport, and New Orleans (photo of the billboard in New Orleans is shown here). Although the billboards are no longer running, the Louisiana Section's Government Relations Committee would like to continue spreading awareness and education on the lack of infrastructure funding and ways the engineering community can make a difference.

In April, Mr. Gary Pentek and Mr. Bill King gave an informative presentation about DOTD's Off System Bridge Program and Bridge



Rating Process. Also in April, several of our members took the Professional Engineering Exam! We have some bright young engineers in our Branch and we look forward to bringing them into our professional community! May 19 will be our annual joint luncheon hosted by LES at Juban's.

We are honored to have the 2016 President-Elect for National ASCE, Norma Jean Mattei, speak at our luncheon on June 16. We will also be recognizing and celebrating our Past Presidents so this will be a very special luncheon. On August 18, we will host the joint luncheon with LES. We are very excited to have the new DOTD Secretary, Dr. Shawn Wilson, speak.

We hope that you are as enthusiastic about these upcoming events as we are! The Board has put in a lot of effort to bring you diverse topics and interesting speakers but we always welcome your suggestions for topics, speakers, and activities.



Left to Right: Kahli Cohran, Clint Willson, Sarah Laakso, Amy Olson, Danielle Welborn, Blake Roussel, & Tyler Branch

SHREVEPORT BRANCH By Chris Myers, PE, Branch President

This year the Shreveport Branch hosted the 2016 ASCE Louisiana Spring Conference:

Date: April 28-29, 2016.

Location: Shreveport Convention Center, 400 Caddo Street, Shreveport, LA 71101

Hotel: Hilton Shreveport, 104 Market Street, Shreveport 71101

For more details go to: http://events.constantcontact.com/ register/event?llr=uxxxzhwab&oeidk=a07ec5oescm89fa072a



Mitch Guy, past-president of Shreveport Branch, has taken lead point for this conference by serving as Conference Chairman. If you would like to contact him or have a questions email: mguy@cdgapec.com

This past February ASCE Shreveport Branch presented two scholarships to the Outstanding Senior: Katherine L. Lybrand (left) and Outstanding Junior: Mary J. Voisin (right) Louisiana Tech civil engineering students pictured below. We could not have given these scholarships without our members support!

I would like to thank Glenn Turner from Meyer, Meyer, LaCroix & Hixson for presenting at the February meeting on Disinfection Byproducts for Water Utilities (picture below).

The Shreveport Branch also co-hosted our March meeting with the Louisiana Engineering Society (LES) to cover the topic of Professional Ethics presented by Chris Knotts from Louisiana Professional Engineering and Land Surveying Board (LAPELS). The meeting was very informative and covered some of the proposed upcoming changes to Continuing Professional Development (CPD's) requirements of renewal every year instead of every two years and additional ethics Professional Development Hour (PHD) required and excess PDHs shall carry over fewer hours than previously allowed. See Sections 707, 3103, 3105, 3109, 3111, 3115, 3119, and 3121 –Continuing Professional Development at: http://www.lapels.com/docs/Laws_and_Rules/Notice_of_Intent-filed_022016.pdf

Please address your questions and comments to the pending changes to the rules to Tyson Ducote, email: tducote@lapels.com. The next LAPELS Board meeting is May 16, 2016.

If you would like more information about our Branch please send us an email at ASCE.Shreveport@gmail.com and we will forward you our monthly newsletter that includes the latest events.



ASCE-SEI New Orleans Chapter News

By Om Dixit, PE, FASCE, F-SEI



The ASCE SEI New Orleans Chapter has gotten off to a good start in 2016, hosting and planning seminars and workshops and volunteer efforts. All seminars are held from 5:30 PM to 8 PM.

On April 6, 2016, SEI New Orleans Chapter invited New Orleans speakers Michael Folse, PhD, SE, (Lanier and Associates, New Orleans, LA) and Steven Fall, MS, PE (Fall Company, LLC, New Orleans, LA) to present the seminar "DESIGN WITH SEISMIC PROVISIONS OF ASCE 7-10." First Dr. Folse explained in brief the ASCE 7-10 design code requirements for seismic design that followed with demonstration of the calculation of seismic loads in accordance the Equivalent Lateral Force Procedure of ASCE7-10. The focus example was a three story structural steel building with braced frames in the EW direction and rigid frames in the NS direction. Low Seismic - New Orleans and High Seismic -Memphis, were considered. Later Steven Fall reviewed the provisions for Non-building Structures. A brief introduction to the dynamics of vibrating single degree of freedom structures was also presented to help understand the basis of the ASCE 7-10 provisions. The seminar was attended by about 76 members.

On April 28, 2016, SEI New Orleans Chapter invited New Orleans speakers **Scott Storm, EIT** (Thornton Tomasetti, Kansas City, MO) to present the seminar *"DESIGN, CONSTRUCTION AND RENOVATIONS OFSPORTS STADIUMS IN NEW ORLEANS."* This Presentation will address about the challenges encountered during the design, construction and renovation of famous New Orleans Sports Stadiums. These will include the new Tulane Football Stadium, recent renovations for Mercedes Benz Superdome and Smoothie King Center.

Other topics for the future seminars include:

• The David Hunter Lecture for 2016 will be presented by Robert B Anderson, PE, (Robert B Anderson Engineers, New Orleans LA) on June 7. Robert Anderson has been locally and nationally known structural engineer who will share his experiences and lessons learned designing slab on grade and post-tensioning during his professional carrier. The title of the lecture is to be determined at this time.

ASCE SEI New Orleans Chapter sponsored Coaches Lounge at the **LES Regional MathCounts** competition held at University of New Orleans in February 2016 and provided a few volunteers for managing the competition.



The ASCE SEI New Orleans Chapter sponsored awards at **Greater New Orleans Science and Engineering Fair (GNOSEF)** held in February 2016. SEI NO Chapter provides judges to pick the best projects related to structural engineering. In recent years the number of projects related to structural engineering have grown due to these awards. The award winners were:

Junior Division

The First Place (\$100) award was given to **Trinity Ellsworth** of Lake Forest Elementary Charter School for his project "Are You Strong Enough?". The Second Place (\$75) award was given to **Colette Lance** of John Curtis for his project "Can a Suspension Bridge Carry a Greater Load Than a Simple Beam Bridge".

Senior Division

The First Place (\$100) award was given to **Suraj Zaveri** of Haynes for his project "How Does Bridge Design Affect Weight Bearing Capacity?" The Second Place (\$75) award was given to **Meredith Perniciaro** of John Curtis for his project "Reduction of Atmospheric and Salt Water Corrosion on Stainless, Aluminum and Carbon Steel"

The awards of \$50 were also given to the Teachers of the winning project's school for encouraging their students to do a Structural Engineering project. These teachers were **April Wallace** (Lake Forest Elementary Charter School); **Kathy Bush** (John Curtis); D. **Prentice** (Haynes), **Kathy Boucvalt** (John Curtis). Starting to give the awards to the teachers of the winning projects from last year showed the results in the quality and quantities of the Structural engineering projects in this year's Science Fair.

The committee is looking for good topics and speakers for future presentations. Members with expertise in the field of structural engineering would be welcome to join the Executive Committee. For any suggestion and information on joining the Executive Committee, contact Chairman L.T. Cooper, PE at Itcooper@edg.net. For adding your name to our mailing list, e-mail Om P. Dixit, PE at omdixit@cox.net.

Student Chapter News

LOUISIANA STATE UNIVERSITY By Gabrielle Dubroc, Student Chapter Secretary

ASCE at LSU participated in the 2016 Deep South Conference at McNeese State University in Lake Charles, Louisiana this past March. Our competing teams included Steel Bridge and Concrete Canoe, and both worked tirelessly to present completed products. With the goal of getting more of our ASCE members involved, Amy Olson and Chris Watson, the captains of Concrete Canoe and Steel Bridge respectively, made a great effort to ensure that members played an active role in the design and construction processes. For many, it was the first time being involved on either team and proved to be a wonderful team building and learning experience. Concrete Canoe members Amy Olson, Gabrielle Dubroc, Danny Gutierrez, and Jeffrey Sturcke placed 2nd in Co-ed Sprint, and Amanda Jackson and Gabrielle Dubroc placed 2nd in Women's



LSU Concrete Canoe Team 2016 Left to right: Alicia Fortier, Dave Robertson (Mentor), Danny Gutierrez (Co-Captain), Amy Olson (Captain), Jeffrey Sturcke, Landon Stockton, Gabrielle Dubroc, Adam Linson, Breanna Bell, Amanda Jackson, Dr. Michele Barbato (Mentor)

UNIVERSITY OF LOUISIANA AT LAFAYETTE By Sarah Pippen, Student Chapter President

UL Lafayette has had an overall, successful year. The beginning of the semester was relatively slow, with a few meetings for our annual competition. We competed in three sport competitions through LES: softball, soccer, and basketball. We placed 2nd, 2nd, and 4th, respectively. This lead to our overall 3rd place in the Dean's Cup handed out during Engineering Week. We spent the rest of the semester preparing for competition in March. The chapter had fifteen students attend the annual Deep South competition at McNeese State University. They participated in steel bridge, concrete canoe, mystery design, Daniel W. Mead paper, and surveying. The students worked hard through the Fall and Spring semesters to make it to competition, and they were not disappointed. The chapter left the competition with many awards, and made sure our school was recognized for its work. Concrete canoe placed 1st in men's sprint and endurance, as well as, 1st in women's sprint and 3rd in women's endurance. The design paper submitted prior to the competition placed 3rd as well. The concrete canoe team is excited to begin preparations to sweep the competition next year! UL also placed 1st in the steel tape competition and 3rd in the level loop competition for surveying. The competition was a huge success, and all of the students had a great time. Preparing for Engineering week was next, we were tasked to help paint outside of the engineering hall and had many

Endurance. Additionally, Gabrielle also placed 2nd in the Daniel W. Mead contest. We are all very proud of our Tigers and look forward to building an even stronger team next year. We would like to thank all of our sponsors this year. This would not be possible without your continued support.

As the end of the semester approaches, ASCE at LSU intends to end on a strong note. Our final general body meeting will be held on April 18th, and our members will also be participating in the Geaux Big Baton Rouge community service event for the fourth year in a row. To learn more about our ASCE chapter at LSU, please visit asce.lsu.edu.



LSU Steel Bridge Team 2016 Left to right: Jonathan Mayeaux, Chris Watson (Captain), Breanna Bell, Alex Rome, Drake Bourgeois, Amanda Jackson, Enrico Targa (Co-Captain)

volunteers help with Engineering Day Prep. The day came and went successfully, with our undergraduate departmental project displayed placing 3rd overall. At the engineering banquet, held the Friday of Engineering week, we were honored with these awards, plus 3rd place in the departmental quiz bowl. Finally, we ended the year with two consecutive meetings. Our new officers for 2016-2017 were elected on April 19th.

Katherine Foreman -Fundraising chair Jacob Neu - President Jose Mendieta - Conference chair Chase Kraemer -Events/LES coordinator Jeanne Zeringue - Vice President Tyler Eaton - Secretary Joshua Schexneider - Treasurer

We were very happy to have the Acadiana Branch President, Sarah Richard, and our new Practitioner advisor, Pamela Gonzales-Granger, attend the election as well. Our last meeting was held April 23rd, with Brett Bayard of Mader Engineering and EB Brooks of Lafayette Central Park presenting on the new Horse Farm. We are all looking forward to a long summer before the next busy year! Geaux Cajuns!



SAVE THE DATE!

Call for Potential Speakers and Exhibitors!

We are proud to announce the dates for the 26th Annual Louisiana Civil Engineering Conference and Show. This event, a joint effort from the New Orleans Branches of ASCE and ACI, is the premiere gathering for the Civil Engineering community in the Greater New Orleans Area. We are in the process of soliciting sponsors and exhibitors and establishing the technical program for the fall conference which will be held on September 28-29, 2016, at the Pontchartrain Center in Kenner, Louisiana.

For additional information on the conference, please visit our web site at www.LCECS.org



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– CALENDAR OF EVENTS —

AUGUST 2016

Region 3 Board of Governors Meeting - Chicago, IL) August 14-15

SEPTEMBER 2016

September 28 - October 1 ASCE 2016 Convention - Portland, Oregon

Registration now open. ASCE is invested in your success, and the development and growth of our civil engineering profession and

community. Visit the Convention website to view the latest program information. http://asceconvention.org/

For more events visit the ASCE Events Calendar: http://www.lasce.org/calendar.html

KNOCK YOUR MEETINGS OUT OF THE PARK! SIGN ON AN ASCE SPEAKER.

ASCE's Speakers Bureau, matches speakers and subject matter experts with those who are looking to utilize one of the Society's strongest assets – its members' professional expertise. The Speakers Bureau makes that expertise available through a quality, online program now available as a benefit available only to ASCE members.

Check out the Speakers Bureau: <u>http://www.asce.org/online-speakers-bureau/</u>.

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