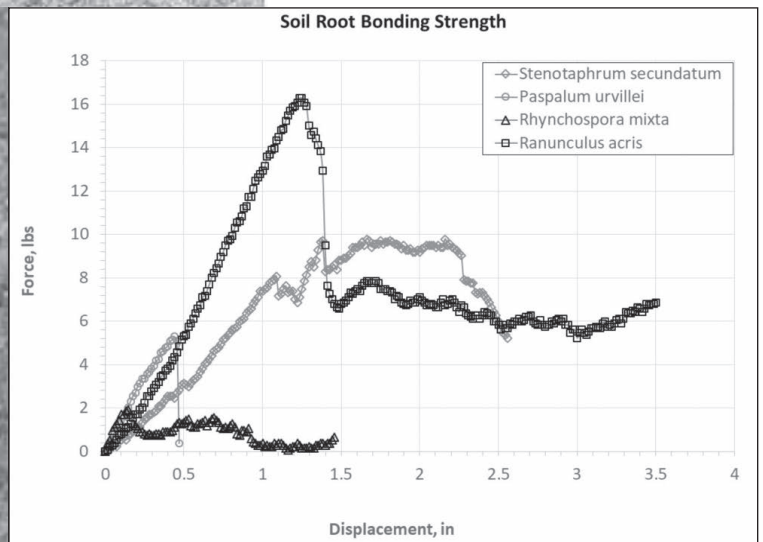
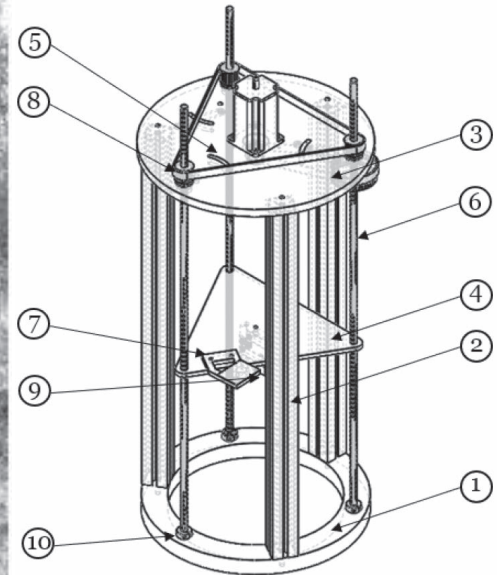


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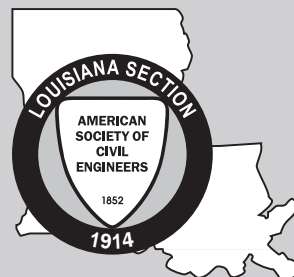


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## President's Message

By Rudolph Simoneaux, III, PE

It's hard to believe that my term as Louisiana Section President will end in about a month! The year has flown by and I'm proud to report that our Board has accomplished a lot throughout this term. Like most incoming presidents, I approached the beginning of my term last Fall with a lot of enthusiasm and energy. To be completely honest, I had somewhat of a "Make ASCE Great Again" mentality. However, I quickly realized how difficult it was to improve an organization that was already being operated very effectively and with great efficiency. This is a credit to my predecessors, who helped craft the Louisiana Section Board of Directors into the well-oiled machine that is today. I'm confident that Mr. Beau Tate, your 2019-2020 President, will continue this tradition and uphold the high standards that have been set before us.

Our Board inherited a surplus from the previous term's budget, which allowed us to make investments back into the membership. My main priorities involved additional programs and funds to civil engineering students and the ASCE Student Chapters. We were able to expand our Outstanding Civil Engineering Student scholarship program to include junior students and senior students from around the State. We also were able to create several student events during Finals weeks that allowed civil engineer students to interact with students and relax between exams. As ASCE members, I encourage each of you to continue to talk to civil engineering students whenever possible. Mentorship is often a lot more indirect than most people think - a practicing engineer offering a quick tidbit of career advice to an aspiring engineering student does not take a lot of time and is more impactful than you can imagine.

We were also able to create programs that will allow the distribution of the **Dream Big: Engineering Our World** DVD kits to public schools throughout Louisiana. In partnership with ASCE headquarters, we were able to purchase over 800 of these kits, which captures the imagination of children and encourage them to "think like engineers", Dream Big, and consider engineering as a future profession. This documentary, which was nominated for a Grammy, allows the audience to witness how today's engineers are shaping the world of tomorrow. The kits also include several STEM oriented activities that will help teachers in the classroom. The Baton Rouge Branch has been very active in visiting schools around the Baton Rouge region to distribute the kits and actually demonstrate some of the STEM activities. This experimental approach has been well-received by teachers and school administrators and will serve as a model for the other Branches. I was able to participate in these and I was amazed to see how the hands-on aspect of these kits allowed all the students to engage and have fun. As my term ends, we will be mailing copies of the DVD kits to the school districts throughout the State. We'll also be offering a visit to teachers who may want a practicing Civil Engineer to come speak to their

classes and help with the activities.

I would like to close by encouraging all ASCE members to become an active participant in local ASCE branches and institutes. The Louisiana Section offers a wide variety of opportunities to become involved, whether it be Branch leadership or one of the technical institutes - Coasts, Oceans, Ports, and River Institute, Structural Engineering Institute, or Transportation and Development Institute. Louisiana also has several very active Younger Member groups for engineers under the age of 35. If you're interested in becoming more involved, please reach out to me directly, or reach out to one of the other Board members, for more information. The privilege of serving on the Baton Rouge Branch Board, Louisiana COPRI Board, and the Louisiana Section Board has been one of the most rewarding professional accomplishments for me.

Thank you for allowing me to serve as your president! During my term I was fortunate enough to be promoted to Chief of Engineering for the Louisiana Coastal Protection and Restoration Authority. This combined with raising three kids should be enough to keep me busy for quite a while. However, I plan to still stay very active in ASCE and the engineering community for the foreseeable future. So I'm not saying goodbye!

THANK YOU!!!!  
Rudy Simoneaux



Rudolph Simoneaux, III, PE

**"The Louisiana Section recently purchased over 800 Dream Big DVD kits. We will be distributing one kit to every public school in the State. More information will be provided in the coming months."**



# Development of In-situ Soil Root Bonding Strength Evaluation Equipment to Study Coastal Erosion Prevention

By Shaurav Alam, Eric Borquist, Cody Rogers, David Hall, William B. Patterson, Joseph Higuera, Erik Eklund, Jay Wang



**Shaurav Alam, PhD**

## Abstract

Research shows that around 1,756 square miles of land along the Louisiana coastal area is likely to erode over the next 50 years. Construction of seawalls, which requires significant taxpayers' money, helped initially to control such erosion. Their installation, however, has resulted in several negative impacts, which forces coastal management researchers to search for alternative environmental-friendly, more sustainable solutions. One such solution is controlled cultivation of plants; studies already show that plant roots' tensile strength directly improves soil shear strength, providing planting a clear advantage over constructed barriers. Unfortunately, no standard guideline is publicly available for the evaluation of a group of roots' effect on soil strength. Moreover, tensile testing of an individual root or shear test on collected disturbed soil samples with and without roots in a lab is very unlikely to represent the in-situ soil-roots bonding strength (SRBS) scenario. So, there is a need for development of a standard equipment and associated practice describing procedures for in-situ investigation of SRBS that includes setup of the developed instrument, site and sample preparation, temperature and humidity record, holding techniques for the strength testing equipment, perform uproot strength test, and transfer data. This article focuses on fabrication of a standardized in-situ smart testing apparatus (ISTA) with capability for evaluating the SRBS and comparing with regular lab test results, which could contribute to better understanding for controlling of coastal area erosion.

## 1. Introduction

Coastal erosion presents a significant challenge to engineers and scientists as many coastal marshes exhibit degradation due to sea level rise and associated erosion. Berkowitz et al. 2018 mentioned that decreases in vegetation is one of the various other factors that convert marshes to open water. Traditionally, seawalls were constructed to control erosion; however, more environmentally-friendly, sustainable, and cost-effective solutions are now sought out to mitigate coastal erosion.

One such solution is active and controlled cultivation of coastal flora. While constructed barriers, such as seawalls, do not affect soil strength, inclusion of flora root systems directly improves soil shear strength. Unfortunately, at this time there is no publicly available standard to measure and evaluate root system effects on soil strength. Moreover, tensile testing of an individual root and shear test on collected disturbed soil samples with or without roots in a lab is very unlikely to represent the in-situ soil-roots bonding strength (SRBS) scenario. Thus, there is a need for development

of standard equipment and associated testing practices describing procedures for in-situ investigation of SRBS that includes setup of the developed instrument, site and sample preparation, temperature and humidity data recording, holding techniques for the strength testing equipment, performance of uproot strength test, and transfer of data. This paper focuses on fabrication of a standardized in-situ smart testing apparatus (ISTA) for evaluating the SRBS data for further analysis and comparison with traditional lab test results, contributing to better understanding of SRBS and mitigation of coastal erosion.

## 2. Material and Methods

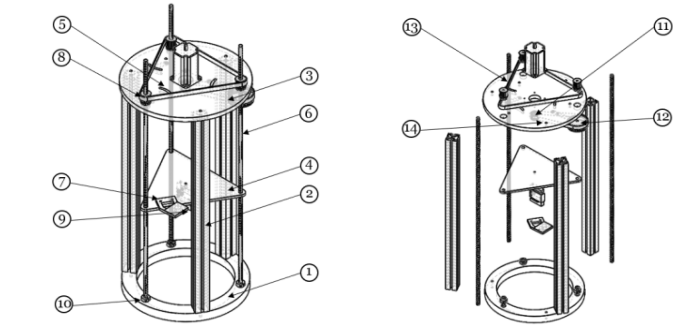
### 2.1. Fabrication and Structure

Several criteria are important when developing a testing apparatus for difficult environments, such as coastal regions. The potential salt content of the water, humidity of air and soil, soil-apparatus interaction, and mobility requires a robust, yet lightweight design. The entire structure of the device was fabricated from aluminum, stainless steel, and PLA filament. Physical components of the structural setup include a circular ring, a circular plate, triangular carriage plate, structural columns, and threaded rods. All structural and non-structural components, including gears and shaft collars, pre-tensioner, and ultrasonic sensor mount are shown in Figure 1. Given that some components are hidden; Figure 1 also displays the exploded view of the apparatus. The structural components are comprised of six separate materials. Both the top plate (0.5" thickness) and bottom ring (1.0" thickness) are fabricated from 5456 high-strength aluminum. The carriage plate is fabricated from 0.25" thick 6061 aluminum. All structural columns are T-slotted, single rail, 1.5" square hollow frame extruded aluminum. Each of the three threaded rods are 0.375" diameter, 24 thread size, 18-8 stainless steel. All threaded shaft collars are 0.875" outer diameter, 0.375" inner diameter, 24 thread size, 303 stainless steel. Each shaft collar has two socket head screws, tightened to the threaded rods, eliminating any vertical downward movement. Mounting the ultrasonic sensor requires a non-structural element which is fabricated through additive manufacturing. Table 1 provides the legend for Figure 1, which shows the schematic view of the developed equipment.



**Table 1:** Structural component list for the testing apparatus

Item	Part	Description	Qty.
1	Base Ring	Circular Aluminum Ring	1
2	Support Columns	Extruded Aluminum	3
3	Top Plate	Circular Aluminum Plate	1
4	Carriage	Triangular Aluminum Plate	1
5	Pre-Tensioner Slots		3
6	Threaded Rod	Lead Screw	3
7	Sensor Mount	For Ultrasonic Sensor	1
8	Medium Gear	T5 Series Timing Belt	3
9	Eye Bolt	Attach to Load Cell	1
10	Threaded Shaft Collar	Attach to Threaded Rods	3
11	Small Gear	T5 Series Timing Belt	2
12	Large Gear	T5 Series Timing Belt	1
13	Small Timing Belt	T5 Series	1
14	Large Timing Belt	T5 Series	1



*Figure 1: Structural components of developed apparatus (left) and Exploded view (right)*

All three gear sizes are all T5 series. The outer diameters of the three gears are: (1) small - 25.4 mm, (2) medium - 41.3 mm, and (3) large - 66.7 mm. Urethane belts of 10 mm width each are used, with the small belt having length of 400 mm and the large belt having length of 815 mm. The small gear underneath the top plate is connected to the stepper motor and large gear via the small belt. On the top plate, the second small gear is used as the pre-tensioner for the three medium gears.

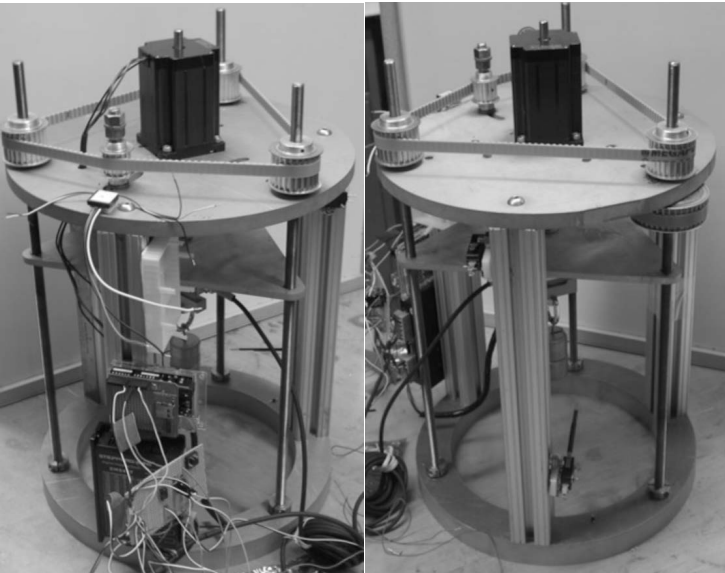
**Table 2:** Electronic component list for the testing apparatus

Part Number	Description
24HS34	Stepper Motor
20U7	GPS Sensor
SHT11	Humidity/Temp Sensor
LM358	Op-Amp
HC-SR04	Ultrasonic Sensor
LSB300	FuTek Load Cell
DM542T	Stepper Driver
LS Series	Whisker Switch

**2.2. Electronics**

The controller and main motherboard for the apparatus is an Arduino Uno. All other electronic components are connected to the controller and initiated using an Arduino sketch. Electronic components include environment sensors, GPS, stepper motor and driver, and a load cell with op-amp for signal amplification and acquisition. All included electronic components in the current testing apparatus are given in Table 2: Electronic component list for the testing apparatus.

One additional benefit of the apparatus is the general flexibility for researchers to add or remove electronic components, per their research focus. Adaptability of the apparatus is one of the design criteria that adds versatility to the apparatus. Regarding the current design, Figure 2 displays the electronics and structural components of the developed apparatus.



**Figure 2:** Display of the apparatus from the sides

**2.3. Testing Method**

After confirming successful apparatus operation in the laboratory, the apparatus was moved to the field for full-scale testing. A Honda 2000i generator was also taken to the field to provide power to the

apparatus and data acquisition system. One design criteria is the mobility of the apparatus and additional auxiliary equipment.

The testing procedure is as follows:

- Using an extra wide zip-tie, loosely secure the plant to be pulled.
- Pass an additional zip-tie through the initial zip-tie without securing.
- Pour drops of Super-glue on the inner surface of initial zip-tie and outer surface of plant stem and fully tighten the initial zip-tie.
- Trim the testing plant overgrowth part, if necessary.
- Place the apparatus over the plant and anchor using three 12" anchor bolts through the holes on the base ring.
- Lower the triangular carriage plate to a distance so that the second zip-tie can loop through the eye bolt, located at the bottom of the load cell.
- Carefully secure and tighten the second zip-tie so that the plant experiences minimum tension.
- Connect the Arduino to a laptop and the power supply of the stepper motor to a 120V AC power source (generator).
- Start Arduino sketch and record data for further analysis.

	A	B	C	D
1	Stenotaphrum secundatum			
2	Date: 5/9/2019			
3	GMT: 14:59:34			
4	Humidity: 72.21%			
5	Temp: 74.43°F			
6	Lat: 32.5214			
7	Long: 92.6128			
8				
9	Force (Lbs)	Distance (in):	MDistance (in):	Force (Lbs)
10	1.569366	6.3	0	0
11	1.644098	6.03	0.01471	0.074732
12	1.644098	7.03	0.02942	0.074732
13	1.793561	7.03	0.04413	0.224195
14	1.868293	6.11	0.05884	0.298927
15	1.793561	6.24	0.07355	0.224195

**Figure 3:** Sample screen shot of collected data

### 3. Results

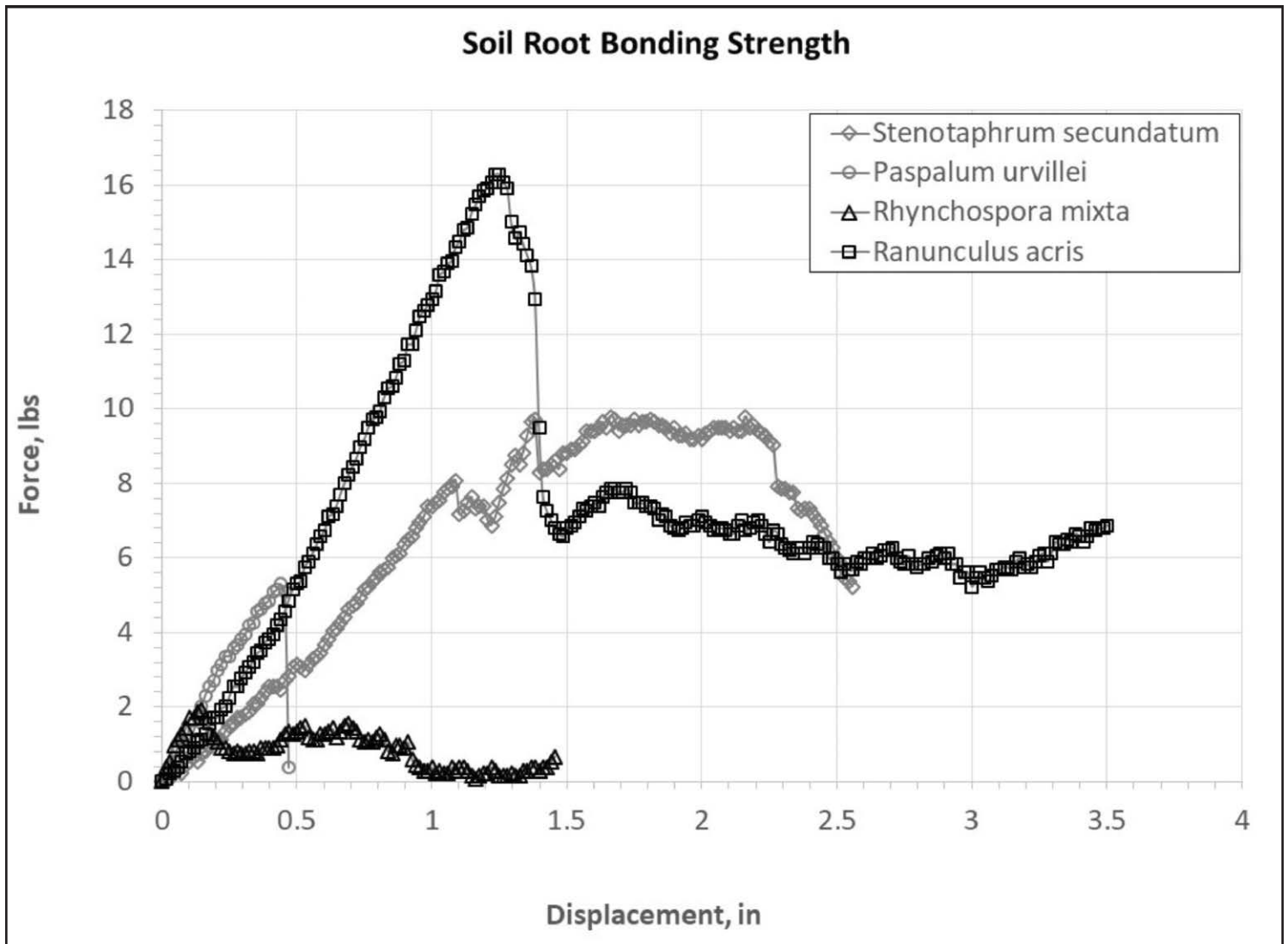
The field testing included evaluation of SRBS using the newly developed equipment and collection of soil samples for lab analysis following standard soil test protocol. The SRBS testing produced pull (uproot) force and displacement data along with the associated parameters like test date, test time, latitude, longitude, humidity, and temperature at the test location (see Figure 3).

Lab samples were evaluated to calculate the soil bulk density, moisture content, air content, and pore space as the initial SRBS was evaluated by comparing the peak pull force values with different soil parameters. Therefore, the core soil samples near the location of each plant species were taken to study the bulk density, pore space, moisture content, and air content of the soil (see Table 3: Soil properties of collected samples at the vicinity of the plants).

**Table 3:** Soil properties of collected samples at the vicinity of the plants

Species	Bulk Density, <i>pcf</i>	Pore Space, %	Moisture Content, %	Air Content, %
Stenotaphrum secundatum	61.599	62.765	57.131	5.634
Ranunculus acris	60.353	63.518	55.740	7.778
Paspalum urvillei	62.054	62.490	58.051	4.439
Rhynchospora mixta	69.584	57.939	54.243	3.695





**Figure 4:** SRBS between the Plant and Soil

Figure 4 shows the pull force over displacement plot. Resistance by the *Ranunculus acris* species produced the largest pull-strength, indicating its excellent bonding to soil. The large displacement verses moderate pull force by *Stenotaphrum secundatum* reveals spreading of roots inside the soil. Among the other two species, *Paspalum urvillei* produced better strength in comparison to the *Rhynchospora mixta*.

#### 4. Conclusion

Current research shows tensile capacity of plant roots provides mechanical reinforcement to fine grained soils at shallow depth and is potential to increase shear strength ability (O'Loughlin, 1974; O'Loughlin et al., 1982; Shewbridge et al., 1989; Skaugset, 1997). However, tensile testing of one individual root or shear test performed in a lab on collected disturbed soil samples with and without roots is very unlikely to represent the in-situ SRBS scenario. Nevertheless, the available studies performed by different researchers related to SRBS involves development of empirical equations and estimation of slope stability process based on single

root tensile strength and unfortunately, standard recommendations for evaluation of group of roots' effect on soil shear strength are not available in public domain. Therefore, the proposed carryon device is expected to be a much needed tool for in-situ evaluation of SRBS combining a group of roots and can be easily reduced to a standard practice. Other possible additional scopes of the equipment include onsite tensile testing and SRBS of a single root. Data obtained using this equipment can also be easily corroborated to research works performed over decades and potential to enhance the value of the works performed by earlier researchers.

#### 5. Acknowledgement

This research was conducted under a grant obtained from the Louisiana Board of Regents (Contract No. LEQSF(2018-19)-RD-D-03). The project would not have been possible without the cooperation of the representatives of the Board of Regents that funded the project. The authors wish to thank Mr. Neil Reinhart, Senior Technician in Bogard Hall Machine Shop for his tremendous thoughtful support during fabrication of the equipment.

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**Shaurav Alam, PhD** - Dr. Alam is an Assistant Professor at the CE / CET Department of a Louisiana Tech University, College of Engineering and Science, P.O. Box 10348, Ruston, LA 71272. He started working in the Trenchless Technology Center (TTC) at the Louisiana Tech University after completion of his PhD in Engineering with emphasis on Materials and Infrastructure Systems in November 2011. Dr. Alam was awarded with M.Sc. in Computational Mechanics from the Technical University of Munich, Germany. While working at Tech, he was involved in several research projects including restoration of coastal ecosystem by planting shrubs. Some of his other works involve research on fly ash based concrete, frontal polymerization of mortar, and rehabilitation of buried infrastructures.

## ASCE Region 5

By Peter M. Moore, PE, ENV SP, F. ASCE



*Peter M. Moore, PE, ENV SP, F. ASCE*

For more information, please see  
<https://www.asce.org/conferences/>



## ASCE Convention

Miami, Florida | October 10–13, 2019

*Engineering > Innovating > Leading*





## Past ASCE Louisiana Section Presidents 2002 - 2019



Charles L. Eustis, PE 2002-2003



Timothy M. Ruppert, PE 2006-2007



Patrick J. Landry, PE 2010-2011



Barbara E. Featherston, 2003-2004



E.R. (Ray) DesOrmeaux, PE 2007-2008



Ronald L. Schumann, Jr., PE 2011-2012



Norma Jean Mattei, PE 2004-2005



Ali M. Mustapha, PE 2008-2009



Kurt M. Nixon, PE, PLS 2012-2013



Kim M. Garlington, PE 2005-2006



Christopher P. Knotts, PE 2009-2010



Robert W. Jacobsen, PE 2013-2014

## Past ASCE Louisiana Section Presidents 2002 - 2019



Pamela A. Gonzales Granger, PE 2014-2015



Matthew D. Redmon, PE 2016-2017



Rudolph Simoneaux, III, PE 2018-2019



Christopher G. Humphreys, PE 2015-2016



Malay Ghose Hajra, PhD, PE 2017-2018

## ASCE Louisiana Section (1914) - Branches



### SHREVEPORT BRANCH (1953)

Area: Parishes of Bienville, Bossier, Caddo, Caldwell, Catahoula, Claiborne, DeSoto, East Carroll, Franklin, Grant, Jackson, LaSalle, Lincoln, Madison, Morehouse, Natchitoches, Ouachita, Red River, Richland, Sabine, Union, Webster, West Carroll and Winn.

### NEW ORLEANS BRANCH (1962)

Area: Parishes of Terrebonne, Lafourche, St. James, St. John the Baptist, St. Charles, Jefferson, Orleans, Plaquemines, St. Bernard, St. Tammany and Washington.

### BATON ROUGE BRANCH (1962)

Area: Parishes of Ascension, Assumption, Concordia, East Baton Rouge, East Feliciana, Iberville, Livingston, Pointe Coupee, St. Helena, Tangipahoa, Tensas, West Baton Rouge and West Feliciana.

### ACADIANA BRANCH (1982)

Area: Parishes of Acadia, Allen, Avoyelles, Beauregard, Calcasieu, Cameron, Evangeline, Iberia, Jefferson Davis, Lafayette, Rapides, St. Landry, St. Martin, St. Mary, Vermillion and Vernon.

## Engage in Public Policy: The August Recess and Beyond

Whether representing you on the federal, state or local stage, policymakers need civil engineers like you to put the 2017 state and national Infrastructure Report Cards in their hands and provide firsthand information about the current conditions of Louisiana's infrastructure. Connecting with state and federal policymakers in-district is an excellent way to form a relationship with them and their staff. Make sure you collect cards and create a lasting relationship with periodic e-mails to update or thank them for casting key votes.

In fact, your Congressional Delegation are back in their hometowns this month, Louisiana's eight-member federal delegation are home until September 9<sup>th</sup>, it's a great time to catch up with them at a town hall, picnic, roundtable or other event. Check out their websites, social media pages and local events pages in the newspaper to find out where they'll be. If you need help preparing for these events, ASCE's Government Relations Staff is here to help. Simply contact us at [govwash@asce.org](mailto:govwash@asce.org) and we can send you talking points, handouts, and other materials.

You should also note that Louisiana is one of a few states with a gubernatorial election in 2019. As a reminder, ASCE, its Sections, and its Branches, cannot endorse candidates or make campaign contributions. You can instead host panel discussions or open forums on infrastructure to which you invite all candidates to share their ideas and get feedback from the public and our members. In doing so, it is critically important that your invitation be extended to all candidates in the field – they don't all have to participate but, they must all be invited. If you have questions about engaging this year's candidates, contact ASCE's Government Relations department at [govwash@asce.org](mailto:govwash@asce.org).

This means it's important to visit your city or parish board of elections website or start by visiting [www.geauxvote.com](http://www.geauxvote.com), to review a sample ballot and familiarize yourself with the candidate names, and any ballot measures you may be tasked to vote on. These questions can be just as critical to funding our infrastructure as electing the governing body itself. While you probably registered to vote during the 2018 election cycle, if you have recently moved be sure to update your registration so you can vote in your new precinct. If you aren't register, take a moment to complete the process. The city or parish board of elections will also tell you where to go to vote on Election Day and whether you're eligible for early or alternative voting options – like vote by mail or online voting.

Ready to get involved beyond voting and attending district events? Make sure you're among the first to know when to reach out to elected officials on critical infrastructure matters by becoming an ASCE Key Contact. Key Contacts are among the first to receive information from ASCE's Government Relations Staff when infrastructure policies are being debated. Whether it's a lift as simple as sending a quick e-mail urging them to continue their dialogue on transportation funding or a phone call asking for a specific vote on a water infrastructure measure, Key Contacts will receive timely and in-depth briefing information that can be passed along to elected officials. Learn more by visiting ASCE's Key Contact page at <http://www.asce.org/keycontacts/> or email [keycontact@asce.org](mailto:keycontact@asce.org).

In addition to receiving e-mail updates with legislative information, you can follow along at your leisure by visiting ASCE Legislative Tracking page at <http://cqrcengage.com/asce/state/louisiana> for the latest information on legislative and regulatory action items at the state level. The page also features action centers that will highlight the latest state and federal Key Alerts requiring your attention. To check out the legislative trends in neighboring states visit <http://www.acec.org/advocacy/state-legislative/> and click on one of the state pages to view their legislative and regulatory reports.

Your advocacy efforts can help make infrastructure a priority to legislators. Flex your rights as a citizen to advance the Society's initiative to improve the nation's infrastructure.





# ASCE-COPRI Louisiana Chapter News

By Venu Tammineni, PE, Director – Communications  
LCOPRI@yahoo.com



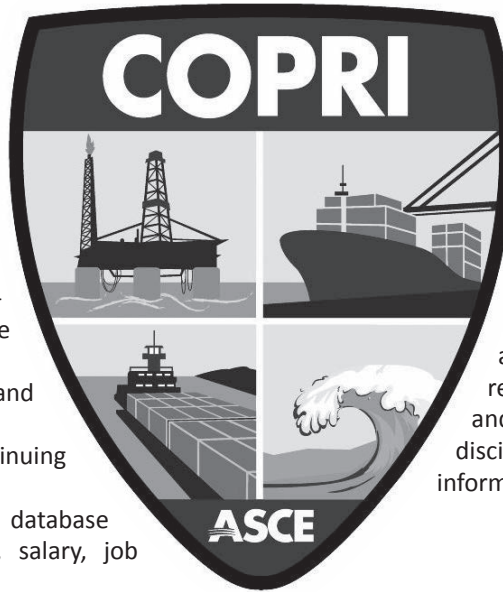
COAST, OCEANS,  
PORTS AND RIVERS  
INSTITUTE  
Louisiana Chapter

## COPRI MEMBERSHIP

### ASCE/COPRI INDIVIDUAL MEMBERSHIP

As an ASCE member, you have the opportunity to join one Institute at no additional cost or add a second Institute for just \$30 per year. Benefits include:

- 10 free PDHs per year: select and participate in up to 10 one hour on-demand webinars yearly and earn a free PDH for each test you pass
- Discounts on all ASCE Conferences and Events
- Discounts on all ASCE publications, continuing education and more
- Access to ASCE Career Connections: a database of over 600 jobs searchable by title, salary, job requirements, and geographic location



**JOIN ASCE/COPRI at**  
**<https://www.asce.org/join/>**

Remember to select COPRI as your primary Institute!

\*You don't have to be a member of ASCE to join COPRI. COPRI only membership is available for only \$85 per year, and perfect for researchers, scientists, government employees and non-engineers working in one of COPRI's disciplines. Contact [copri@asce.org](mailto:copri@asce.org) for more information.



Register now for the **79th Annual Meeting of the Association of Levee Boards of Louisiana**, which will be held as a joint effort with the Coastal Protection and Restoration Authority. The Workshop will be held on December 4-5, 2019, at the Hilton New Orleans Riverside, New Orleans.

**For more information, please contact:**

ASSOCIATION OF LEVEE BOARDS OF LOUISIANA

POST OFFICE BOX 2961, BATON ROUGE, LA 70821

Email: [louisianalevee@live.com](mailto:louisianalevee@live.com) | Website: <http://www.albl.org/>

**“Without Flood Control, Nothing Else Matters.”**

**Cory Kief - President, ALBL**

# HISTORIC CIVIL ENGINEERING LANDMARK PROGRAM

*By Tonja Koob Marking, PhD, PE*

The Historic Civil Engineering Landmark Program recognizes historically significant local, national, and international civil engineering projects, structures, and sites. See the complete list of national and international landmarks at <https://www.asce.org/history/>.

## STATE/LOCAL HISTORY AND HERITAGE PROGRAMS

Learn what it takes to advance civil engineering history and heritage in your state by contacting [jlawrence@asce.org](mailto:jlawrence@asce.org).

An example of an ASCE Louisiana Historic Civil Engineering Landmark is the HUEY P. LONG BRIDGE.



*Tonja Koob Marking, PhD, PE*



Jefferson Parish, Louisiana, United States  
Completed 1935



If you have any questions about T&DI or want to become involved in any of our activities, please contact us at [std@iteris.com](mailto:std@iteris.com).



## NOTICE FOR POTENTIAL CANDIDATES TO APPLY FOR VACANCIES ON THE SOUTHEAST LOUISIANA FLOOD PROTECTION AUTHORITY EAST AND WEST LEVEE BOARDS

The Nominating Committee will be seeking applicants for this year to fill the following vacancies for the term of four (4) years, starting July 01, 2020 to July 01, 2024.

Applicants are needed to fill the following Board vacancies:

- The SLFPA- East Board will need to fill two positions: Jefferson Parish Resident and an At-Large
- Non- Resident (non-resident means anyone who is not a resident of Orleans, Jefferson, St. Bernard, or Tangipahoa Parishes).
- The SLFPA-West Board will need to fill the position of an At-Large Non- Resident. The non-resident on the West Board means anyone who is not a resident of either Orleans or Jefferson Parish.

The deadline for receiving applications for these openings is September 9, 2019. The Official Application Package can be obtained from Ms. Stephanie Stout, Office of the Governor – Coastal Activities, 1051 North Third Street, Suite 138, Baton Rouge, La. 70802; (225) 342-3968 office; (225) 342-5214 facsimile; e-mail: [stephanie.stout@la.gov](mailto:stephanie.stout@la.gov).

Applicants need to complete the official application, which can be found at the following link: <http://www.coastal.louisiana.gov/wp-content/uploads/2013/09/SLFPAAApplication1.pdf>.



## NEW ORLEANS BRANCH

*By Robert J. Delaune, Jr., PE, Branch President*

The New Orleans Branch April luncheon was held on April 16th at Lula Restaurant and Distillery on St. Charles Avenue in New Orleans. Our speakers were Jim Hance, Vice President of Eustis Engineering and Bruce Lelong, Structural Engineering Department Manager of AECOM. The presentation topic was an Overview of the Mid-Barataria Sediment Diversion Project. The presentation discussed the purpose of the project, description of project features, hydraulic and sediment transport modeling, geotechnical conditions and challenges. Below is a picture of our co-presenters Jim Hance and Bruce Lelong and our President Rob Delaune at the luncheon.



*Jim Hance, Bruce Lelong and Rob Delaune*

Final Semester Exams can be very stressful for Civil Engineering students and that is why the ASCE New Orleans Branch offered a free lunch to ASCE UNO Student Chapter members during exam week on May 8th. ASCE

Student chapter members were very grateful to get a free meal because it was one less thing they had to worry about while studying during exam week. Below is a picture of students lined up ready for their free lunch.



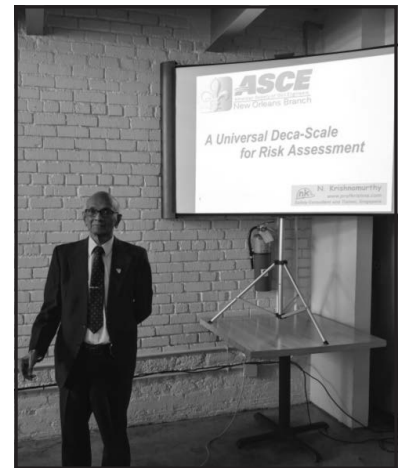
ASCE New Orleans Branch Younger Members recently started the second season of adult kickball with a bit of a rocky start – a Six to Nine loss. Fortunately, the success of our professional careers does not depend on how fast we can run the bases. Our team is a mix of younger members and UNO students and you know we are all about having a good time and taking our stress out on a little rubber ball. Below is a picture of the kickball team after a game. If you are interested in coming out and cheering us on, we play at the City Park Quadruplex on Thursday nights. We welcome anyone to come and join! If you are interested in playing, send an email to Jim Costigan at [jwhcostigan@modjeski.com](mailto:jwhcostigan@modjeski.com). Happy Kicking!

The May luncheon was held on May 14th on the Northshore at the St. Tammany Parish Public Works Hall of Excellence. This was the second year we have held this luncheon on the Northshore in an effort to better serve

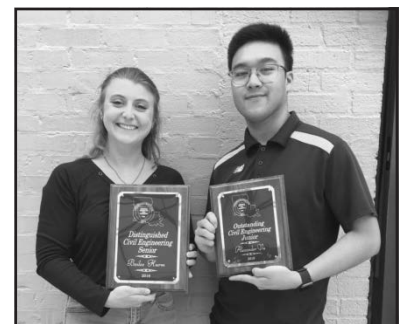


our members and fellow professionals on the Northshore. The luncheon was well attended by 50 professionals on the Northshore. The topic was very relevant to the geographic area as Katelyn Costanza discussed Compound Flooding: Understanding Risks of Combined Inland and Coastal Flooding on the Northshore of Lake Pontchartrain.

The ASCE New Orleans Branch June luncheon was held on June 11th at Lula Restaurant and Distillery on St. Charles Avenue in New Orleans. Our speaker was a special guest all the way from Singapore! Natarajan Krishnamurthy, PhD who is the founder of the ASCE Singapore Chapter volunteered to speak at our June luncheon while he was visiting New Orleans. He is a Fellow of ASCE and holds several inventions and copyrights. Our presentation topic was a universal risk assessment scheme referred to as Deca-Scale for Risk Assessment. Dr. Krishnamurthy is an expert on structural risk assessment. Below is a picture of Dr. Krishnamurthy during his presentation to the membership in attendance at the June luncheon.



At the June luncheon we also presented two awards to the University of New Orleans Students for the Distinguished Civil Engineering Senior, Bailee Hurm and the Outstanding Civil Engineering Junior, Alexander Vu. Congratulations students! Below is a picture of the students with their awards.



*Bailee Hurm and  
Alexander Vu*

## SHREVEPORT BRANCH

*By, Marcus Taylor, PE, Branch President*

We hope it has been great summer for all! It's been for us and we are ready for the fall ahead. As we begin to close out this ASCE 2018-2019 year I would like to thank my fellow officers and all the volunteers that made this past year so successful for the Shreveport Branch. We had great monthly luncheon speakers, had a fun joint Christmas social with our local Louisiana Engineering Society chapter and we hosted a successful 2019 ASCE Spring Conference.

## ACADIANA BRANCH

*By Will Cenac, PE, Branch President*

I would like to start off by thanking again our ASCE Acadiana Branch members for attending our events so far in the 2018-2019 term. The officers of the branch have been working hard to grow and develop the branch so that it becomes a great resource for our members.

We have just finished up our summer period this year. We held a joint event with LES and IEEE in May for a free crawfish boil for our members. It was well attended and was a great experience for students, professors, and members to network and learn about ASCE and the other organizations. During the month of June and July, your Acadiana Branch officers were hard at work preparing and fundraising for our first golf tournament.

We held our golf tournament August 9, 2019 at Les Vieux Chenes Golf Course in Youngsville, LA. Even though it was early August in south Louisiana and the first day of school, we had a great turnout! Ten teams of four signed up and played an excellent round of golf on a beautiful day! Food and drinks were provided, and great prizes were handed out to the longest drive, closest to the hole, and first place team. We even had a licensed surveyor on the course to survey each player's shot for the competitions. Thank you R.J. Fusilier & Associates, LLC!

The Shreveport Branch will kick off our monthly luncheons again in September with Michael Johnson of Propex GeoSolutions. He will provide information regarding Propex and their products for geotechnical-engineered earth armoring solutions. The geosynthetic products range from dam overtopping protection, channel stabilization, shallow plane failures, steep slope stabilization and erosion control in both vegetated and arid environments.

Thanks to our golf tournament sponsors and participants, the Acadiana Branch is in a great place to host the 2020 ASCE Section Spring Conference in Lafayette, LA this upcoming term. Please reach out to the branch if you are interested in being a speaker or would like to sponsor or present at the conference.

We also elected our officers for the upcoming year in our June meeting. They will be introduced in the next newsletter by your new ASCE Acadiana Branch President, Mr. Jacob Neu, EI.

We are also in need of help! We would like to add two officer positions for the branch, should volunteers come forward. We are in need of a Webmaster who will assist in updating content on the branch website, as well as a Newsletter Editor who will be responsible for collecting content and editing our monthly newsletter. If you have any interest in the above positions or would like to be involved as another officer position next year, please do not hesitate to reach out to any of the current branch officers. Thank you for your interest in the Acadiana Branch!





## BATON ROUGE BRANCH

By Sarah Ollenburger, PE, Branch President

### Bridging the Gap



Jarret Bauer of ASCE (Moderator), Brent Duet, Brad Barth, and Ken Perret

Our evening session of Bridging the Gap was held in April at the LSU Museum of Art (Shaw Center) on the topic of “Developing a Project”. The Bridging the Gap sessions offer an alternative to the traditional technical speakers at our Luncheons through an interactive and informal setting. The speakers included Ken Perret, Brad Barth, and Brent Duet. Ken Perret is the President of the Louisiana Good Roads & Transportation Association. Brad Barth is the Program Manager of the Coastal Restoration and Protection Authority (CPRA). Brent Duet is the Principal Engineer/Owner of the Coastal Engineering Solutions.

### April Luncheon

The April Luncheon was presented by Jonathan Fox, President of Intelligent Transportation Systems, LLC. Jonathan has been part of the design for many of Louisiana’s first: first continuous flow intersection, first ramp meters, first restricted crossing U-Turn intersection, first adaptive traffic signal system, and first private cellular network for signal communication. Jonathan spoke on the topic of “What Does ITS Mean to Civil Engineers Today?”

### Engineer It for Kids at Iberville Middle and Dutchtown Middle

In April and May, a few of our Branch members visited two schools to present about Civil Engineering and host STEM activities with approximately 50 students per school. Thank you to our volunteers for taking time out of your day to visit the schools with us: Rudy Simoneaux, Brant Richard, Alicia Sellers, and Jarret Bauer!

### May Luncheon

The May Luncheon was a joint event with LES and ACEC. Rudy Simoneaux, the Engineering Division Chief at CPRA, and also our ASCE Louisiana Section President, spoke to a full house of attendees and gave an update on CPRA.



### Younger Member Social



Younger Member Social

The May Younger Member Social was hosted by LES, ACEC, and ASCE. The event was held at the Red Stick Social and was well attended!

### June Luncheon

The June Luncheon was the Past President’s luncheon and our Branch Awards luncheon. Congratulations to the following recipients of our Branch Awards:



Roger Seals, Gregory Mattson, Mary Danka, Alicia Sellers, Jesse Arnold

- ASCE Outstanding Civil Engineer Award: Mary C. Danka, PE
- ASCE Outstanding Young Civil Engineer Award: Gregory Mattson, II, PE
- ASCE Outstanding Civil Engineering Educator Award: Chao Sun, PhD
- ASCE Outreach Award: Alicia R. Sellers, EI
- ASCE Lifetime Achievement Award: Roger K. Seals, PhD, PE, F.ASCE
- ASCE Wall of Fame Award: Jesse L. Arnold, PE

### Engineer It for Kids at the Louisiana Arts and Science Museum

Our Summer sessions at LASM have continued and we want to thank our volunteers from the Baton Rouge Branch: Josh Olivier, Denzel Flores, Alicia Sellers, and Sarah Ollenburger as well as our ASCE LSU students: Matthew Thomas, Miriam Tariq, and Taylor Brignac



# ASCE-SEI New Orleans Chapter News

By Om Dixit, PE, FASCE, F-SEI



The ASCE SEI New Orleans Chapter has been very busy hosting and planning seminars and workshops and volunteer efforts. SEI NO hosted the following seminars during the past quarter:

The annual David Hunter Lecture for 2019 "Great Builders" was presented Raymond Paul Giroux, Dist.M.ASCE, (Kiewit Infrastructure West Co., Vancouver, Washington) on June 6 2019 at University of New Orleans. Giroux stated that in the past century the means and methods to design and build infrastructure have evolved at an ever-increasing rate. Yet, there are timeless lessons from the builders of the "great projects"; the Eads Bridge, Brooklyn Bridge, Panama Canal, Hoover Dam, and the Golden Gate Bridge. Veteran builder and award-winning civil engineering historian Raymond Paul Giroux shared his unique perspective of the great projects and the timeless lessons of the builders of the great projects. The speaker stated that the challenges of designing and building the Great Projects, the role of the key individuals who worked on the Great Projects, lessons from the Great Builders that are still relevant to modern practice and the essential traits of great builders. He cited several cases from his experience in the construction industry to explain different aspects of the great project builders. The Annual David Hunter Lecture was cosponsored by Linfield Hunter Junius and Department of Civil Engineering at University of New Orleans. It was attended by 61 members.

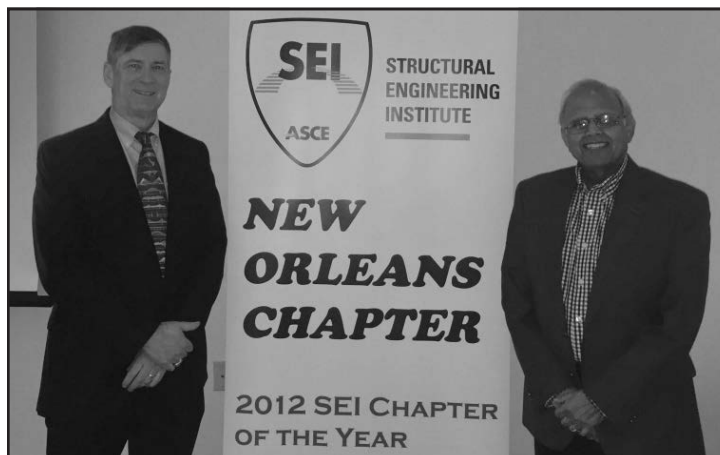
SEI NO seminar "Testing and Inspection Techniques for Transportation and Offshore and Marine Structures" was August 21, 2019 at University of New Orleans. This seminar was presented by Mohammad S. Khan, PhD, PE (Executive Vice President, High Performance Technologies, Inc., Herndon, VA). This was a presentation on various testing and inspection techniques for transportation and offshore and marine structures. There are many transportation structures that are marine structures but not necessarily all marine structures are transportation structures. There are lots of commonalities in the testing and inspection techniques of the two types of structures, but some offshore and marine structures present special testing and inspection challenges due to their difficult accessibility and lack of visibility below water. Some of the testing and inspection personnel need to be divers, and some of the testing and inspection techniques become impractical in submerged conditions even with a diver. Thus, non-destructive evaluation (NDE) techniques that can be applied from above water, coupled with limited underwater inspections, offer the most practical solution for the testing and inspection of offshore and marine structures. This presentation reviewed and analyzed various above-water and underwater techniques that can be used for transportation and offshore and marine structures. Above-water techniques include visual inspections, chloride ion analysis, carbonation depth measurement, half-cell potential measurement,

corrosion rate measurement, strength testing, and petrographic analysis.

SEI NO was also busy in arranging the Annual Herbert J Roussel, Jr. Lecture, "Address Skyview - The Design and Construction Challenges of Linking Two Towers with a Bridge", for 2019 Louisiana Civil Engineering Conference to be held on September 25-26 at Pontchartrain Convention Center in Kenner. This year the HJR Lecture will be delivered by James Pawlikowski, PE, Associate Director, Skidmore, Owning & Merrill, Chicago, IL. This lecture will describe the design and construction of a bridge between two high-rise building in Dubai, UAE.

Besides the HJR Lecture Other structural topics are "Design Build Reconstruction of Murray Morgan Vertical Lift Bridge", "2018 IBC Significant Structural Changes", "Design Resources For Steel Bridge Design", "ACI 318: Changes for 2019", "Sunshine Bridge Emergency Repair", "Changes in Wind Design Provisions of ASCE 7-16", and "Fatigue Crack Detection during Visual Inspection of Steel Bridge Members". The detailed program for the 2019 LCECS can be viewed at [www.louisianacivilengineeringconference.org](http://www.louisianacivilengineeringconference.org).

The committee is looking for good topics and speakers for future presentations. Members with expertise in the field of structural engineering are welcome to join the Executive Committee. For any suggestion and information on joining the Executive Committee, contact Chairman Kabir Mohammed, PE at [asceseinola@gmail.com](mailto:asceseinola@gmail.com). For adding your name to our mailing list, please visit ASCE New Orleans Branch website at [www.asceneworleans.org](http://www.asceneworleans.org) and add name to the email list. Members will be directed to registration page for preregistration to the event. Members could also follow the activities and news of SEI-NO on Facebook @SEINOCCHAPTER.



Raymond Paul Giroux, Dist. M.ASCE, (Left) and Om P Dixit, PE, (Seminar Coordinator) at SEI NO Chapter Annual David Hunter Lecture on June 6, 2019 at University of New Orleans



# Louisiana

## CIVIL ENGINEERING

C o n f e r e n c e & S h o w

### ***REGISTRATION IS OPEN NOW!***

We are proud to announce the dates for the 29<sup>th</sup> 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 25-26, 2019, at the Pontchartrain Center in Kenner, Louisiana.

For additional information on the conference,  
please visit our web site at

[www.LCECS.org](http://www.LCECS.org)

# Student Chapter News

## LOUISIANA STATE UNIVERSITY

*By Sydney Sziber, LSU Student Chapter President*

LSU ASCE has officer elections taking place in the next month. LSU ASCE is also gearing up to build the 2020 concrete canoe team. The 2020 concrete canoe captain is Meredith Guidry. Meredith is starting

her junior year this fall, and the concrete canoe alumni wishes her the best of luck!

## UNIVERSITY OF NEW ORLEANS

*By Bailee Hurm, Student Chapter President*

Prior to summer break, ASCE hosted a joint Spring Social with the ACI Student Chapter and the Younger Members of ASCE on Thursday April 11<sup>th</sup>, 2019. This joint social had two main components: a panel discussion and an opportunity for networking. The Younger Members panel, composed of four engineers in various stages of their careers, answered questions from the student chapter regarding the student-professional transition. The networking and socializing were an equally important component of the event. It allowed UNO students to understand the importance of transitioning from a Student to an Associate ASCE Member post-graduation, and how this continued membership would benefit their professional career. We had a strong attendance and a student to professional ratio of approximately four to one. A few students were interviewed following the event, and everyone provided positive feedback from the discussion and when asked, expressed interest in the event again next year.

The end of the school year closed the book for most of the ASCE UNO Board Members as they move onto their professional lives, but it also started a new chapter for the Fall 2019 and Spring 2020 Board. Elections were held in May and there are new faces leading the ASCE UNO chapter, their names and positions are:

- President - Trevor Paitz
- Vice President – Kelsie Hazel
- Treasurer – Zac Snow
- Secretary – Chase Fals
- Social Chair – Alexis English
- Social Chair – Luis Serrano

Major goals for this year's board is recruitment and younger member involvement. Meetings have already begun for the ACI Concrete Canoe Competition. High expectations have been set for the team as we try to win regionals and return to the national stage. The Deep South Regional Competition will be held in Jackson, MS in February.

The first day of the fall semester is August 14<sup>th</sup> and the schedule is beginning to fill up for the ASCE UNO group. We are looking forward to being involved in the Louisiana Civil Engineering Conference and Show again this year. Dr. Jovanovich has a few outreach opportunities set up with STEM groups and area schools. We plan to take some tours of the local infrastructure, like the Permanent Canal Closures and Pumps on the London Avenue Canal and possibly a precast plant, Forterra Pipe and Precast. As in previous years, we will continue with our monthly meetings where we host several guest speakers. Our first meeting will be the last week in August (date TBD) and Andrew Woodroof will be giving a presentation on government policy and permitting.



Figure 1: ASCE Joint Social during panel discussion



# UNIVERSITY OF LOUISIANA AT LAFAYETTE

*By Mary Grace Sherlock, Student Chapter President*

As the 2018-2019 school year came to an end, the civil engineering department celebrated with an end of the year banquet. This banquet offers students and faculty time to reflect on the school year through speeches and awards. This year's Annual ASCE/Chi Epsilon Banquet, however, included a special surprise for our professors and faculty. In previous years, we would recognize a single outstanding professor at the banquet, but this year we could not pick just one. The ASCE officers spent weeks thinking of the perfect way to recognize all of our beloved teachers. We presented a personalized sash that had a saying that described their personality. This part of the banquet was extremely special, and it was great to see everyone in the room smiling, laughing, and enjoying the occasion.

Even though the school year has come to an end, the journey for our Sustainable Dog House team was not yet over, as they were moving on to the national competition after placing second at the regional Deep South Conference in March. The national competition took place in Melbourne, Florida on June 6-8. The assembly team competed on Friday June 7th at the Florida Institute of Technology. The banquet took place that evening at the Clemente Center, where our team took home third place! This was super exciting for our team because this was the first year that this competition was introduced. Even though the team started from scratch with no prior experience or guidance, this competition was a huge success. We are so proud of this team for meeting all of their challenges and having a very successful and innovative first year. We are excited to see what this team will accomplish this upcoming year.



*Dog House captain, Alex Weeks, holding the third place trophy at the national banquet*



*A member of the assembly team, Joshua Hoffpauir, relaxing after the competition*

We are extremely excited for this upcoming year and hopes to do great things for a department that we love. We are looking forward to a new year as the fall semester of 2019 is approaching. During the first few weeks of the fall semester, the UL ASCE student chapter hosts an annual BBQ in Girard Park. This is a time where students, faculty, and alumni can catch up and enjoy time together before the semester gets busy. Stay tuned to see what is happening throughout the year and for additional information about the chapter, visit <https://ulcivil.weebly.com>. Geauxxx Cajuns!!



*A group of UL Lafayette's Civil Engineering faculty wearing their personal sashes at the Annual ASCE/Chi Epsilon Banquet*



*The Dog House Assembly Team competing at the national competition in Melbourne, Florida*



*Former student Avery Brooks presenting Dr. Sun with her personalized sash*



*Former student Mary Grace Sherlock presenting Dr. McManis with his personalized sash*



*Former student Alice Kerl presenting Dr. Miller with his personalized sash*

# — CALENDAR OF EVENTS —

2019

President Governors Forum - Reston, VA ..... Sunday, September 22, 2019 - 8:00am  
to Monday, September 23, 2019 - 4:30am

29th Annual Louisiana Civil Engineering Conference and Show ..... Wednesday, September 25, 2019  
to Thursday, September 26, 2019

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

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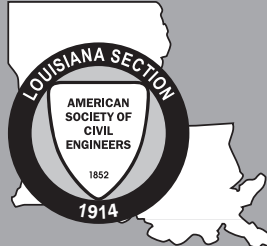


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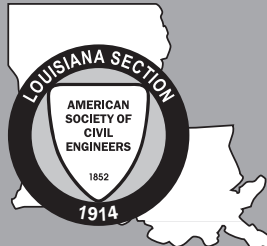
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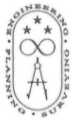
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