



## FROM THE DEPARTMENT CHAIR

A letter from George Z. Voyiadjis



In October, the Department of Civil and Environmental Engineering was visited by two ABET accreditation teams. One team focused on the civil engineering undergraduate program while the other team focused on the environmental engineering undergraduate program. ABET accreditation, which the programs undergo every 6 years, is very important to the department, our students, employers of our graduates, and other constituencies. Accreditation involves a continuous improvement process, as well as documentation, which ensures our curricula in civil and environmental engineering are relevant and meet the expectations of the profession. This evaluation is an exhaustive and comprehensive process and therefore I wish to express my sincere gratitude to all of the faculty and staff who worked diligently to prepare for the visit. The accreditation teams examine a program's curriculum, admission processes, advising procedures, assessment processes, and samples of student work. Programs must demonstrate achievement of their stated objectives and outcomes.

The department is anticipating that both curricula will be accredited for the maximum six year period prior to the next mandatory accreditation visit.

Along with numerous student and faculty achievements in this issue we also share with you research highlights from two of our new assistant professors: Drs. Navid Jafari and Chao Sun. Both joined our department this fall and are a welcomed addition to an already strong faculty base.

Pictured above is the new renovated Patrick F. Taylor Hall that will house all the engineering departments in the College of Engineering. Completion of the building is set for November 2017 and so far the project is on schedule.

In closing, myself and the department would like to wish you and your family a wonderful holiday season.

Sincerely,  
**Dr. George Z. Voyiadjis**  
*Boyd Professor, Chair  
Bingham C. Stewart  
Distinguished Professor*

## ALUMNI REGISTRATION & UPDATES

The Department of Civil & Environmental Engineering is always interested in how our alumni are doing. We hope you will take the time to send your updates to [jmueller@lsu.edu](mailto:jmueller@lsu.edu) or, if you prefer, you can "snail mail" them to:

**Department of Civil and Environmental Engineering**  
**Louisiana State University**  
**Attn: Julie Mueller**  
**3418 Patrick Taylor Hall**  
**Baton Rouge, LA 70803-6405**

Please include basic information such as your full name, year of graduation, degree, mailing address, email address, telephone number, company, and your title/position. For your update, please include information on your recent professional and personal developments, along with a high-quality photo, if available.

Thanks for staying in touch!

To connect with the LSU College of Engineering, please visit [www.eng.lsu.edu/alumni/update](http://www.eng.lsu.edu/alumni/update)



## STUDENT CHAPTER UPDATE: ASCE AT LSU

ASCE at LSU has been busy during the spring and fall semesters of 2015 with bi-monthly student chapter meetings, recruiting events, preparing for the Deep South Regional competition, attending community service events, and holding an election for the 2016 student chapter officers. This year the chapter has welcomed guest speakers from Crest Industries, SEMS Inc., BASF, SJB Group, LLC, Terracon, Jones and Carter, the ASCE Baton Rouge branch, Kiewit, GeoEngineers, Volkert, and ASCE COPRI. Topics discussed in the meetings include ethics, current civil projects, design challenges, career paths, and professional licensure.



*Pictured Above: Student Involvement Fair February 2015; Treasurer Enrico Targa and President Alicia Fortier*

ASCE at LSU has attended various member recruitment events, including the Student Involvement Fair and Engineering Tiger Connections. These events provide students with information on the wide variety of organizations that are on campus. Students

had the opportunity to talk with current officers, learn about ASCE, and join the chapter.

The steel bridge and concrete canoe teams have been preparing for the Deep South Regional competition that will be hosted by McNeese State University in March 2016. During this fall semester, the teams have focused on designing, analyzing, and fundraising. Both teams are incorporating improvements into their designs and are looking forward to the fabrication phases of their bridge and canoe during the spring semester. Big thanks to all donors and sponsors, past and present, for their donations and support.

Student involvement in the LSU and Baton Rouge community continues to be an important goal for the student chapter of ASCE at LSU. On March 28<sup>th</sup>, chapter members volunteered with Geaux BIG Baton Rouge in order to improve our Baton Rouge community. ASCE helped strip and repaint the eaves around a woman's

home and helped clean out debris and overgrowth in her backyard. Chapter members also worked to beautify LSU's campus and learned about sustainability at the service event for Spring Greening Day on April 24<sup>th</sup>. In conjunction with the Louisiana Water Environment Association (LWEA), both student chapters teamed up for a community service event to clean up the LSU lakes. At the fall event on October 11<sup>th</sup>, a total of 24 students participated in removing debris and trash around the lakes and the surrounding areas.



*Pictured Above: LSU Lake Clean-Up, October 11, 2015*

Officer elections were held at the fourth meeting of the fall semester, with the new officers to be instated at the end-of-the-semester banquet in December.

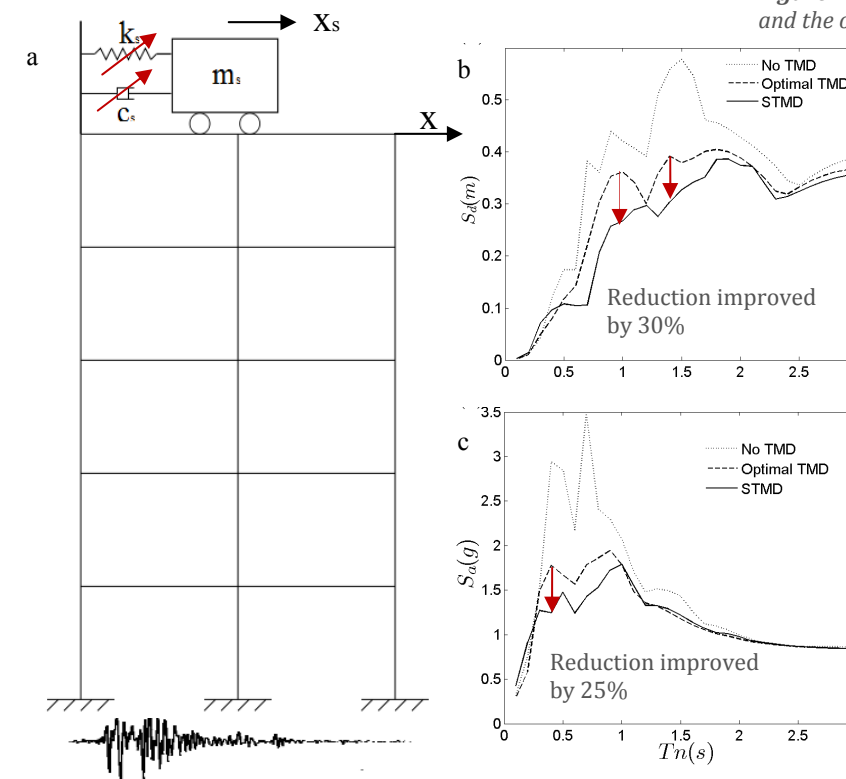
### The officer positions for 2016 are as follows:

- Gabrielle Dubroc (President)
- Jeremy Vezina (Vice President)
- Breanna Bell (Secretary)
- Enrico Targa (Treasurer)
- Jaden Gillespie (Meeting Coordinator)
- Mason Moran (Community Service Chair)
- Megan Corzo (Fundraising Chair)
- Mitch Everhardt (Webmaster)

To learn more about ASCE at LSU, please visit online at [asce.lsu.edu](http://asce.lsu.edu). If you are interested in speaking at one of the student chapter meetings about ethics, professional development, licensure, current civil/environmental projects, etc. or to be a sponsor/donor for the steel bridge or concrete canoe teams, please contact us at [asce@lsu.edu](mailto:asce@lsu.edu).

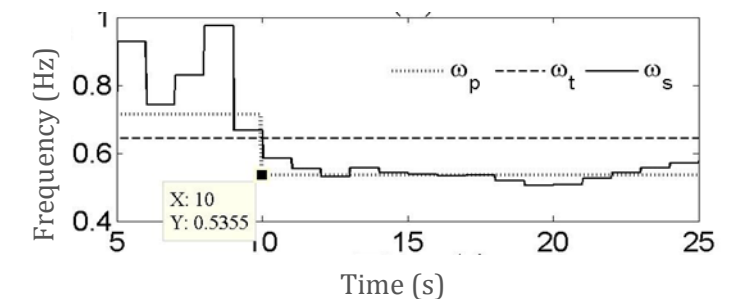


(STMD) with time-varying frequency and damping property can overcome this limitation. Figure 3 (a) illustrates the schematic model of a frame structure controlled by an STMD under seismic excitation. Figure 3 (b) shows that the STMD can improve the reduction of the peak of the displacement spectra by 30% compared to an optimal TMD and (c) shows that the peak reduction of the acceleration spectra is improved by 25%.



*Figure 3: Comparison of reduction effect between an STMD and an optimal TMD (Sun etc. 2013)*

Tracking the structural displacement and analyzing it using STFT can provide the frequency information of the primary structure in a timely manner. When damage occurs to the structure, this method can rapidly sense the structural frequency variation and retune the frequency of the STMD to that of the structure in real-time as shown in Figure 4, thereby protecting the primary structure effectively. To the contrary, the passive TMD becomes off-tuned when damage occurs.

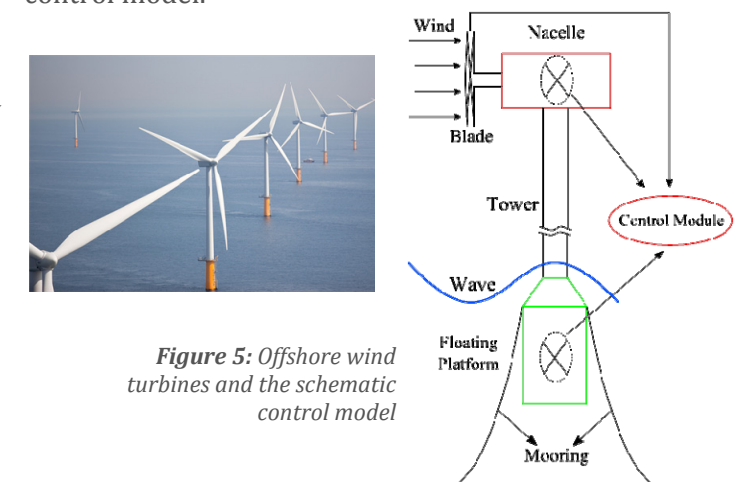


*Figure 4: Frequency time history of the primary structure, the STMD and the optimal TMD (Sun etc. 2013)*

## Coupled Dynamics Modeling and Control of Offshore Floating Wind Turbines

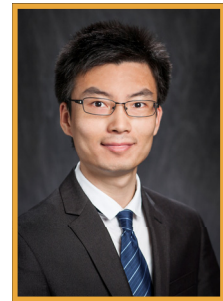
Offshore floating wind turbines (OFWTs) exposed to coupled aero-hydro-servo dynamics exhibit complex dynamic characteristics and suffer from significant nonlinear vibrations. The excessive vibration compromises the power output and causes fatigue damage, instability and even collapse of offshore floating wind turbines (OFWTs). Therefore, it is essential to control the excessive vibration of the OFWTs. Dynamic characteristics of the OFWTs under various marine environmental conditions are modeled using the state-of-the-art blade element momentum (BEM) theory and the potential flow theory. The control techniques developed for nonlinear systems are

utilized to prevent the excessive vibration and damage of OFWTs under multi-hazards. Figure 5 illustrates the offshore wind turbines and the schematic control model.



*Figure 5: Offshore wind turbines and the schematic control model*





## NEW FACULTY RESEARCH HIGHLIGHT: DR. CHAO SUN

**D**r. Chao Sun joined the Department of Civil and Environmental Engineering at Louisiana State University as an assistant professor in August 2015. He holds a B.S. degree (2006) with honors from the Civil Engineering Department at Shanghai Jiaotong University and a M.S. degree (2009) from Civil Engineering Department at Tongji University, Shanghai, China. He earned his Ph.D. from the Civil and Environmental Engineering Department at Rice University in 2013. Upon graduation, he worked as a postdoctoral researcher at the Dynamics and Sensing Lab at Rice University. Then he joined INTECSEA Inc. WorleyParsons Group as a Senior Engineer focusing on hydrodynamic and structural analysis of offshore floating systems (Semi-submersible, Tension Leg Platform, Mooring, Tendon, Riser etc.).

Dr. Sun's research interest is primarily motivated to model, predict and sense the complex dynamic characteristics of civil (primarily coastal and offshore) infrastructures subjected to severe marine environmental effects including wind, storm surges, waves, currents, seismic excitations and ice loadings. His research objective is to detect and prevent multi-hazards induced damage and failure of coastal and offshore structures. His specific areas include complex dynamic (aero-hydro-servo) modeling, sensing and vibration control of offshore floating wind turbines and oil platforms, energy harvesting from ambient vibration and ocean waves, fluid structure interaction, and mitigation of vortex induced vibrations (VIVs) of risers. His particular expertise is in nonlinear dynamics, sensing, vibration control, hydrodynamics, CFD and Finite Element analysis.

### Nonlinear Dynamics Modeling and Vibration Control

Many real structures, i.e. a cantilever beam or a pendulum, can be represented by a Duffing system (with cubic nonlinearity) when the structural geometric nonlinearity is considered. Any time when the nonlinearity is involved, the structure will exhibit

complicated dynamic characteristics, like bifurcations and chaotic behaviors. Numerical and experimental results indicate that a combination of an adaptive pendulum tuned mass damper (APTMD) and a nonlinear tuned mass damper (NTMD) can effectively suppress the bifurcation. Fig. 1 illustrates the schematic model of a primary nonlinear structure with an APTMD and an NTMD. Figure 2 (a) shows that the high amplitude bifurcation branch can be suppressed significantly by the APTMD. Figure 2 (b) illustrates the occurrence of a jump phenomenon when an impact is applied to the primary nonlinear system and (c) shows that the jump can be suppressed when the APTMD is released.

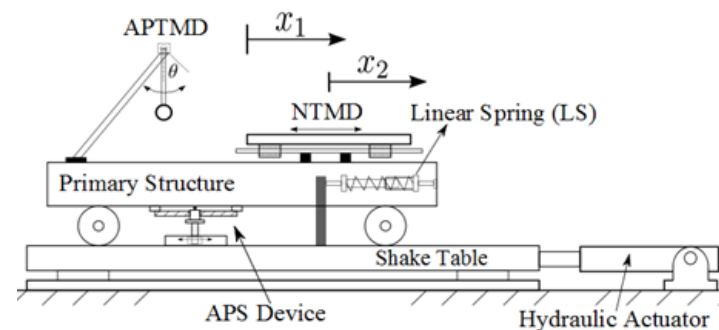


Figure 1: Schematic model of a nonlinear system controlled by an NTMD and an APTMD (Sun et al. 2014)

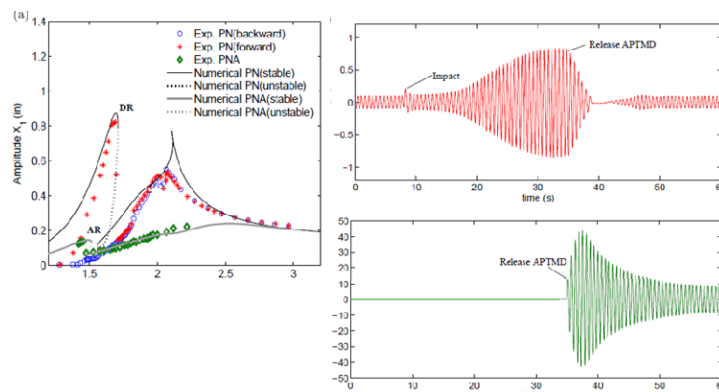


Figure 2: Illustration of the control of bifurcation

### Seismic Protection Using a Smart Tuned Mass Damper (STMD)

Tuned mass dampers (TMDs) have been proved effective in reducing structural responses under external excitations with narrow bandwidth frequency characteristics, like wind loadings or periodic machine loadings. But for non-stationary excitations like earthquakes, the reduction effectiveness of the TMD will be compromised. A smart tuned mass damper

## STUDENT CHAPTER UPDATE: ITE AT LSU

**T**he Student Chapter of the Institute of Transportation Engineers at LSU held two general meetings this semester. In the first meeting, Mr. Phil Jones, LA DOTD Deputy Assistant Secretary for Inter-modal Transportation, talked about the role of multi-modal transportation in Louisiana and how the Department of Transportation and Development supports the State airports, ports, waterways, railroads, and public transit. After hearing from our speaker, students participated in a traffic bowl demo organized by the officers. Prizes were given to the winning team.

In the second meeting, the Student Chapter organized a panel discussion with professionals in the area of traffic engineering. The goal of the panel was to understand what traffic engineering is about and give

students better insight on how all the practitioners work together in the public and private sectors. This meeting also served as a networking event.

The ITE Student Chapter organized a tour to the Port of Greater Baton Rouge on November 4<sup>th</sup>.

### The current officers are:

**President:** Nelida Herrera  
**Vice President and Treasurer:** Syndney Jenkins  
**Secretary:** Elena Farhadi  
**Advisor:** Dr. Julius Codjoe

For questions or to give support to the Student Chapter, you may contact us at [itelsutigers@gmail.com](mailto:itelsutigers@gmail.com). You can also find us on Facebook at ITE-LSU.



Left to right: Dr. George Z. Voyiadjis (Chair of CEE), Garret Graves, Dr. Judy Wornat (Interim Dean of the LSU College of Engineering)

## US CONGRESSMAN GARRET GRAVES VISITS CE4750

**T**his semester, United States Congressman Garret Graves of Louisiana's 6<sup>th</sup> District spoke to the seniors in CE4750-Professional Issues and Concept Design in Civil Engineering, providing insight on public policy and how it involves the Civil Engineering profession.

Congressman Graves has a unique perspective on a wide range of civil engineering and infrastructure issues, having served as the Governor's adviser on Coastal Protection and Restoration for six years prior to being elected to the U. S. House of Representatives in 2014. Also he currently serves on the House Transportation Committee, helping him better serve the 6<sup>th</sup> District relative to the multitude of transportation related challenges throughout the District.

The Congressman spoke of the development of the Coastal Protection and Restoration Authority in state government, which he helped create after coming in at the beginning of the Jindal Administration. He emphasized the magnitude of the problem of coastal land loss in Louisiana and discussed the importance of implementing the approved Louisiana Coastal Master Plan. This 50-year, \$50 billion program will provide great opportunities for all technical professionals, especially Civil Engineers.

Congressman Graves then turned his attention to Transportation-related issues. He spoke of the critical needs throughout the state but especially in the Baton Rouge metro area, which has the worst traffic problems for a community of its size in the United States. He talked about potential funding opportunities and obstacles. He also encouraged the students to stay engaged in the policy side of transportation issues as they become professionals since their input will be critical to implementing successful solutions.

## FALL 2015 CEE UNDERGRADUATE SCHOLARSHIP RECIPIENTS

**A.W. Noland, Jr. Endowed Scholarship** (\$1000 each):  
Jarrett E. Logan  
Adam D. Linson

**Baton Rouge Water Company Scholarship** (\$1000 each):  
Cody J. Estopinal  
Ryan M. White C

**Chevron Environmental Engineering Scholarship** (\$1900 each):  
Kristen S. Alevizon  
Aaron J. Bennett

**Chevron Scholarship in Civil Engineering** (\$1900 each):  
Claudia V. Caldera  
Rachel C. David  
Elizabeth H. Hutchinson C  
Patrick G. Duffy

**Dr. Yalcin B. Acar Memorial Scholarship** (\$1000 each):  
Lisa A. Weaver

**Environmental Technical Sales, Inc. Scholarship** (\$750 each):  
Margaret A. Miller  
Jeremy M. Vezina

**Erin Krielow Lahr Memorial Scholarship** (\$1000 each):  
Victoria K. Sample  
Morgan R. Barranco  
Natalia Gomez-Junco

**Frank J. Germano Memorial Scholarship** (\$1250 each):  
Marisa A. Fanguy  
Claire M. Like

**James A. Nugent, Jr. Scholarship** (\$750 each):  
Travis J. Honore  
Mitchell R. Everhardt

**Joseph W. Carmena, Sr. Memorial Scholarship** (\$1900):  
Preston S. Watts

**L. Ralph ('49) and Jacqueline L. Dartez Scholarship** (\$4000):  
Joseph R. Bresowar

**Stanley M. and Hilma R. Cothren Scholarship** (\$1000 each):  
Garrett S. Johns  
Matthew B. Ketterer

**Uniroyal Chemical Environmental Engineering Scholarship** (\$1000)  
Kevin M. Starkey

**William F. Crawford Memorial Scholarship** (\$1000 each):  
Kevin S. Brown  
Kyleigh C. Ardoin

Techniques, such as infrared imagery, geophysical methods, visual smoke/steam and settlement observations, and landfill gas monitoring, are readily available to detect elevated temperatures, but the spatial and temporal variation of landfill gas, temperature, leachate migration, and settlement of elevated temperature events and the underlying mechanisms are lacking. As a result, a case study was used to identify the following landfill indicators after the onset of localized elevated temperatures: (1) changes in landfill gas composition, (2) measurable elevated gas and leachate pressures (Figure 2a), (3) increased leachate migration and volume (Figure 2b), and (4) slope movement and settlement (Figure 3). With the aforementioned indicators, a conceptual model was proposed to classify a MSW landfill into five zones to determine the transition from normal operating areas to the elevated temperature region, which is important for public health, environmental safety, and appropriate response by landfill personnel, first responders, and regulatory agencies.

## GEAUX ENGINEERING



## PATRICK F. TAYLOR HALL RENNOVATION UPDATE

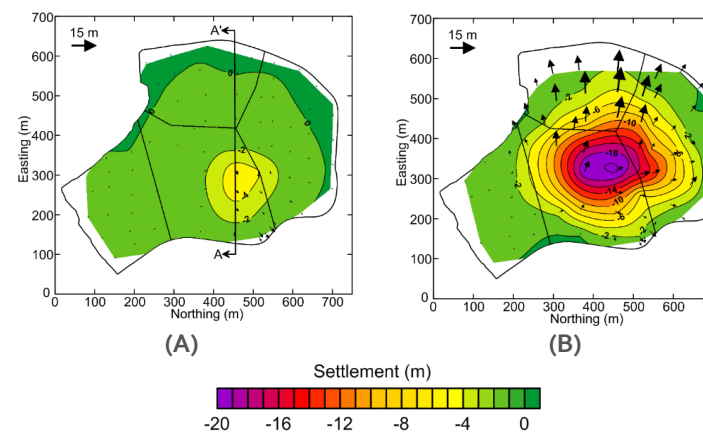
In Fall 2014, one year ago, the LSU College of Engineering broke ground on the largest building project in LSU's history. Since then there has been significant progress on the expansion and renovation of Patrick F. Taylor Hall (PFT). Just recently, the precast panels started going up. Soon after, a "Topping Out" ceremony was held to celebrate an important milestone in the project: the installment of the last beam, signed by faculty and staff. Exciting things are happening here!

So, what's next for the project? The north side of Patrick F. Taylor Hall is slated to be complete by July 2016, with the Chemical Engineering addition being substantially complete by that time. At that point, the Department of Civil and Environmental Engineering will relocate to the north side of the building, as renovation on the south side of PFT Hall should begin that September. The entire project is scheduled to be completed in November 2017.

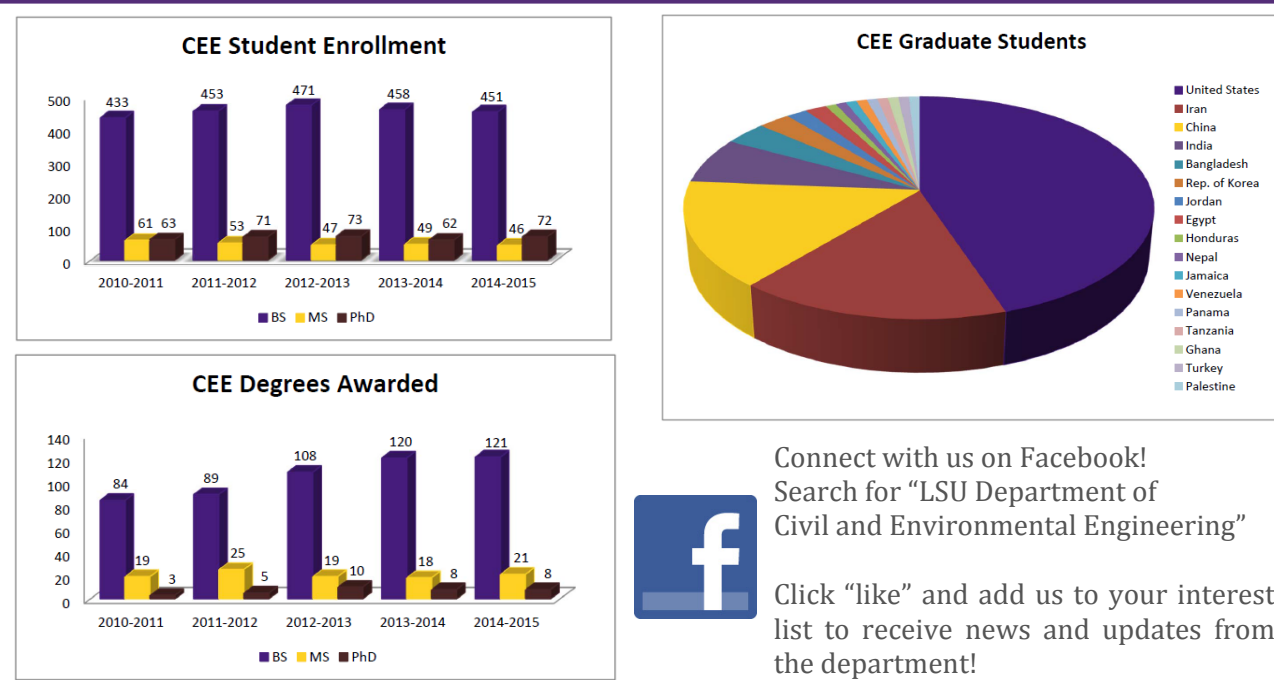
To check out more photos and information about the project, visit [www.eng.lsu.edu/about/pft](http://www.eng.lsu.edu/about/pft)



**Figure 2.** Photos of: (a) leachate geyser of 2 to 4 m high from MSW landfill side slope, and (b) Thermally degraded (combusted) waste from 100 mm diameter rotonomic sample



**Figure 3.** Spatial expansion of settlement (color contours) and corresponding slope movement (vectors) for: (a) September 2010, and (b) September 2013 (Jafari, 2015).







## NEW FACULTY RESEARCH HIGHLIGHT: DR. NAVID JAFARI

Dr. Navid Jafari recently joined the LSU Department of Civil & Environmental Engineering as an assistant professor in August 2015. Dr. Jafari holds a B.S. with honors (2010) in civil engineering from the University of Memphis. He earned his M.S. (2011) and Ph.D. (2015) in geotechnical engineering from the University of Illinois at Urbana-Champaign. Dr. Jafari's research expertise lies at the intersection of coastal, environmental, and geotechnical engineering and supports LSU's strategic mission of coastal and environmental sustainability in the Mississippi River delta. His primary areas of study in coastal geotechnics include resiliency of storm surge and flood protection infrastructure, as well as marsh creation, erosion, and subsidence. His specific areas of interest in geoenvironmental engineering include design of waste containment systems, sustainable management of industrial wastes, and the development, migration, and containment of elevated landfill temperatures.

### COASTAL INFRASTRUCTURE

Two-dimensional (2-D) seepage models can under-predict landside hydraulic gradients under landside excavations and convex levee bend conditions. The state-of-practice for examining levee and floodwall seepage is 2-D finite element analyses (FEA) and/or analytical solutions proposed in the U.S. Army Corps of Engineers (USACE) design manuals EM 1110-2-1901 and EM 1110-2-1913. The 2-D FEA calculates uplift pressures and flow assuming levee geometry, soil stratigraphy, boundary conditions, and excavations are infinitely wide. However, urban levees and floodwalls are constructed to accommodate natural river meanders and coastlines.

The 3-D model of Sherman Island levee in Figure 1 indicates that concave levee bends diverge seepage leading to lower vertical hydraulic gradients compared to 2D plane strain seepage models. The analyses also show convex bends, e.g., near Station 525, yield gradients greater than 2D values while the vertical gradients approach the 2D value when the levee is straight (close proximity to Station 535). The

outcome of the research also allows for axisymmetric seepage models can be used to evaluate 3D vertical hydraulic gradients for convex levee bends. In the future, Dr. Jafari will evaluate the performance of Louisiana's levee and floodwall infrastructure for wave-induced erosion and subsidence.

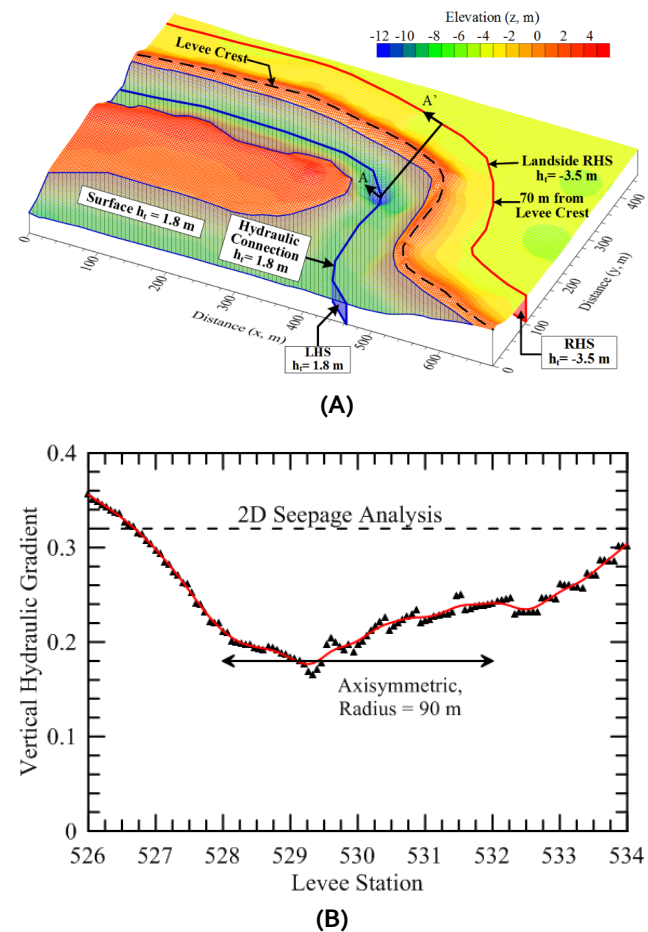


Figure 1. Sherman Island (a) surface geometry created from GIS topographical elevations and 3D boundary conditions, and (b) 3D vertical hydraulic gradients located between Levee Stations 526 and 534 (Jafari et al., 2015).

### WASTE CONTAINMENT SYSTEMS

Elevated temperatures in municipal solid waste (MSW) landfills can impact the integrity of the landfill cover and liner systems, degrade leachate quality and gas composition, induce slope failures, and emanate odors and incomplete combustion by-products to the atmosphere. MSW landfills are required to operate within NSPS regulations of landfill gas temperatures < 131°F. However, several factors can lead to landfill temperatures exceeding threshold, including aerobic decomposition, self-heating, partially extinguished surface fires, exothermic chemical reactions, spontaneous combustion, and smoldering combustion.



Dr. George Z. Voyiadjis, Boyd Professor and Chair of Civil & Environmental Engineering at LSU, was the recipient of an award for his significant contribution to Continuum Damage Mechanics, presented to him during the Second International Conference on Damage Mechanics (ICDM2), Troyes, France July 8-11, 2015. The Organizing Committee of ICDM2 bestowed this award to Voyiadjis for his impressive work in the field of continuum damage mechanics. The award (pictured below) is a trophy designed by the Organizing Committee.

Two identical awards were given for the first time to two recipients: Dr. George Z. Voyiadjis and Dr. Jean Louis Chaboche, who was the director of ONERA (Office National d'Etudes et de Recherches Aérospatiales). It will be repeated every three years in the same conference. The next conference will be held in Shanghai, China in 2018.



During the conference Voyiadjis was honored by an International Mini-Symposium on "Multiscale Damage Mechanics," sponsored by the Second International Conference on Damage Mechanics (ICDM2), Troyes, France July 8-11, 2015. In his Mini-Symposium, he gave a keynote lecture on Damage Mechanics.

Voyiadjis is also the recipient of the Louisiana Section ASCE Civil Engineering Wall of Fame Award. To recognize those individuals who have made outstanding contributions to our Civil Engineering Profession, the Louisiana Section ASCE has established the Louisiana Section ASCE Civil Engineering Wall of Fame. This elite group of Civil Engineers within the Louisiana Section was officially created in September 2002 as part of the ASCE 150<sup>th</sup> Anniversary.



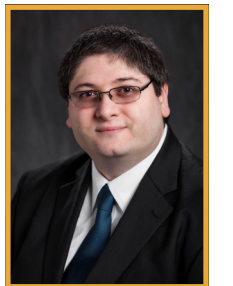
Clifford J. Mugnier, Instructor in the LSU Department of Civil and Environmental Engineering, was recently appointed to chair the American Society of Photogrammetry and Remote Sensing (ASPRS) Subcommittee of the External Affairs Committee within the National Society of Professional Surveyors.



Congratulations to Dr. Qin Jim Chen, CSRS Distinguished Professor in Coastal Engineering, along with Drs. Zuo George Xue, Honggao Liu, Steven Brandt, and Robert R. Twilley on their recent grant award from the National Science Foundation entitled, *Cyber-SEES: Type 2: A Coastal Resilience Collaboratory: Cyber-enabled*

*Discoveries for Sustainable Deltaic Coasts*. The period of award is October 1, 2015 through September 30, 2019 and is expected to total \$1,199,154.

Dr. Michele Barbato from the LSU Department of Civil and Environmental Engineering, in collaboration with a research team from the University of South Carolina at Columbia, has been awarded a research grant from the National Science Foundation (NSF) for the project entitled "Collaborative Research: Engineered Earth Masonry for Affordable Seismic Resistant Low-Rise Buildings". This award of \$164,983 will enable Dr. Barbato's research group to develop a novel and high-quality reinforced earth masonry for seismic resistant low-rise buildings. Through engineering, sustainable and locally appropriate but brittle unfired earth masonry will be transformed into a radically stronger and more ductile system by using non-biodegradable recycled plastic fibers combined with internal steel reinforcement. This new affordable, sustainable, high-quality and hazard-resistant construction system will be essential to tackle rising housing costs, create jobs, and provide safe shelter in hazard-prone areas.



Congratulations to Drs. Zhi-Qiang Deng, Ayman Okeil, and Frank T-C Tsai (pictured above, left to right) on their recent promotions from Associate Professors to Full Professors.





**Dr. Ayman Okeil**, in collaboration with the Louisiana Transportation Research Center (LTRC), received a grant from the National Science Foundation to introduce Field Monitoring and Measurements (FMM) into the CE undergraduate curriculum. The research team (VJ Gopu (PI), R. Seals (co-PI) and A.M.

Okeil (co-PI)) will work on developing and integrating special FMM modules into currently offered courses in Louisiana universities. The developed modules will be transportable and tested in four other out-of-state institutions that have committed to partnering with the project team on this endeavor. The goal is to prepare future engineers with knowledge, comprehension, and an ability to apply the use of FMM systems and data. The total grant amount is \$337,312.



CEE Professor **Clint Willson**, along with wife Kay Willson and one of their sons, is participating in a Faculty-in-Residence program here on the LSU campus. According to LSU Residential Life, this program encourages “structured out-of-classroom interaction between students and faculty to seamlessly blend student

learning and development inside and outside the classroom.” Dr. Willson and his family will spend an entire academic year living in an on-campus apartment, mingling with students and creating lasting memories.

## DR. GEORGE Z. VOYIADJIS CHAIRS THE MATERIALS DIVISION OF THE ASME

**D**r. Voyiadjis served on the American Society of Mechanical Engineers (ASME) Materials Division (MD) Executive Committee for the past five years (2010-2015). Starting this November, he will serve as the Division Chair of the Materials Division. This position was previously held by Dr. Junlan Wang of the University of Washington.

During the 2015 ASME International Mechanical Engineering Congress and Exposition (IMECE) in Houston, Texas, the Materials Division continued to play an active role, largely owing the hard work of all the Technical Committees and the Program Chairs. At the IMECE 2015 in Houston, the MD division sponsored/co-sponsored 33 symposia with a total of 70 technical sessions.

The Materials Division is the sole sponsor of the ASME Journal of Engineering Materials and Technology (JEMT). Under the leadership of the current Editor-in-Chief, Mohammed Zikry of North Carolina State University, and a group of dedicated Associate Editors, the journal continues to do very well. In addition, together with ASME Bioengineering Division, ASME Heat Transfer Division, and the ASME Fluids Engineering Division, the Materials Division serves on the Advisory Board to manage the relatively young multidisciplinary journal - ASME Journal on Nanotechnology in Engineering and Medicine (JNEM), which launched in November 2010. Under the excellent leadership of the current journal Editor-in-Chief, Boris Khusid of New Jersey Institute of Technology, JNEM has been flourishing over the past five years. Members are encouraged to submit high quality works to both journals.

The JEMT website can be found at: <http://materialstechnology.asmedigitalcollection.asme.org/journal.aspx>

The JNEM website can be found at: <http://nanoengineeringmedical.asmedigitalcollection.asme.org/journal.aspx>



## DR. GEORGE Z. VOYIADJIS ELECTED TO THE PRESTIGIOUS DISTINGUISHED MEMBER OF THE ASCE

**L**SU Boyd Professor George Z. Voyiadjis was recently named a Distinguished Member of the American Society of Civil Engineers, or ASCE. Since the society’s founding in 1852, only 649 ASCE members have been elected to receive this honor.

Voyiadjis was recognized for his contributions to multi-scale modeling of materials to address problems in high energy impact, damage of structures and instabilities, and for developing a sustained research effort in predicting the behavior of materials in structures. He received the award at the ASCE Annual Convention in New York, N.Y. in October 2015.

Some of his notable contributions include leading a joint effort from 1986-1989 on the analysis of the rupture of the Space Shuttle Challenger’s fuel tank. He proposed and developed numerical models and simulations of structures considering damage evolution and helped other researchers and industries achieve a better understanding of a structure’s behavior.

He is currently a Boyd professor, one of the highest distinctions at LSU for exceptional scholarship, service and dedication to the field, university and students. In addition to 41 years of teaching, Voyiadjis has written books including, "Advances in Damage Mechanics: Metals and Metal Matrix Composites with an introduction to Fabric Tensors."

In addition to his project contributions, Voyiadjis has impacted the discipline through developing constitutive models for various materials and structures. He also holds two patents on fenders for pier and bridge protection against vessel collision.

His achievements have earned him honors including ASCE’s 2008 Nathan M. Newmark Medal. Voyiadjis holds a bachelor’s degree in civil engineering from Ain Shams University in Cairo, Egypt, a Master of Science degree from the California Institute of Technology and Doctor of Engineering Science degree, or D.Eng.Sc., from Columbia University.



*Pictured Above: Dr. George Z. Voyiadjis among the 13 recipients of the 2015 ASCE Distinguished Member Medalists*

###

For more information, contact Alison Satake, LSU Media Relations, 225-578-3870 or [asatake@lsu.edu](mailto:asatake@lsu.edu).

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