UNC CHARLOTTE
The WILLIAM STATES LEE COLLEGE *of* ENGINEERING

Newsletter: FALL **2019**

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CEE News
CIVIL & ENVIRONMENTAL ENGINEERING Department

LETTER FROM CEE Department Chair

Thank you for taking a moment to read about the positive and meaningful impact of our students, alumni, faculty, and staff! Like the approximately 200 other departments of civil and environmental engineering, we advance knowledge and prepare future engineers and leaders to build resilient and sustainable infrastructure. Unlike most other departments, we secure and prioritize investments into a student-centered experience. What does that experience look like? With student creativity and industry support, we are the only department in the world that sent three different teams to three different international competitions (steel bridge, concrete canoe, and innovation) hosted by the American Society of Civil Engineers. Our students are known for their intellect, character, and practice orientation. They can explain their designs and analyses to anyone, at equal ease with contractors, engineers, executives, and the public at large. It's one reason why they're preferentially hired by a growing number of employers, creating value and leading organizations. We'll have those employers, including many of you, in our EPIC building on January 30, 2020, as part of our annual job fair designed exclusively for CEE students.

We're especially proud of alumna Jackie Jarrell, who is serving as the President of the Water Environment Federation (WEF). We had an engaging discussion with Jackie and her board, identifying ways in which academia and industry can support clean water initiatives worldwide. Our department also hosted the second annual Airport Engineering Seminar. That seminar, held at the Charlotte Douglas International Airport (CLT), featured an inspiring keynote lecture by NASA Astronaut Winston Scott. It was fascinating to hear him describe spacewalking to retrieve a Spartan satellite…every step counts! The seminar was part of our multi-pronged aviation initiative, the long-term vision to create new academic programs and research activities on campus and at the airport in West Charlotte. Central to this initiative is embracing UNC Charlotte's commitment to access and social mobility. It turns out that Charlotte ranks 50th out of 50 metropolitan regions in terms of the likelihood in which someone born into a lower economic quartile can, through their lifetime, advance to a higher quality of life. Also targeting this challenge is Dr. Brett Tempest's funding from the National Science Foundation to provide scholarships to support high-achieving, low-income engineering students.

Strategic initiatives and conversations like these shape the context of our undergraduate and graduate programs. A huge milestone for our department is the addition of 15 students into our new Civil Engineering Ph.D. program, providing a discipline-specific alternative to our well-established, interdisciplinary Infrastructure and Environmental Systems Ph.D. program. These students are conducting leading-edge research, as funded by industry (e.g., HDR, Inc.), state (e.g., North Carolina Department of Transportation), and federal agencies (e.g., U.S. Department of Transportation, National Science Foundation). Our faculty are at the heart of making all of this happen. They are the ones writing the proposals, carefully mentoring the graduate students, publishing the results, and innovating in the classroom. Congratulations to Dr. Milind Khire for being recognized as a Board Certified Environmental Engineer, as well as, the other faculty members for receiving new awards since the spring newsletter: Drs. Nicole Braxtan, Wei Fan, Srinivas Pulugurtha, Brett Tempest, and Olya Keen. Well done!

John Daniels
Professor and CEE Department Chair

CEE @ A GLANCE

UNDERGRAD STUDENTS:	MASTERS STUDENTS:	INES + CE PHD STUDENTS:	FACULTY MEMBERS:	ASCE STUDENT CHAPTER NATIONAL COMPETITIONS:
477	55	30	25	3

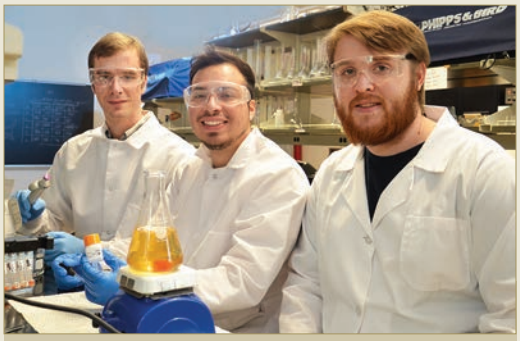
- Steel Bridge
- Concrete Canoe
- Innovation Contest

UPDATED: NOVEMBER 2019

IN THIS Issue

INNOVATION GROWS HERE: ASCE Student Chapter Update

In June, our ASCE Student Chapter made big news at the first-ever ASCE National Student Innovation Contest. Our three-person team (**Michael Murray, Bryan Moreno, and Nathan Lindholm**) not only took first place in the Entrepreneur Category, but also won the Audience Award and was named the top team overall. In April during the Carolinas Conference (the ASCE regional competition), they placed first.



Nathan Lindolm, Bryan Moreno and Michael Murray, working with brewer's yeast.

The Innovation Contest was originally developed as part of the ASCE Grand Challenge initiative with the goal of finding solutions for failing infrastructure. The CEE team's idea involved removing contaminants from coal ash held in surface impoundments called lagoons, ponds, or basins. Coal ash is a residual left over from burning coal for energy production. Coal combustion residual (CCR), as industry professionals call it, can be used as a resource in concrete and drywall production, but it can be a source of water pollution.

Extensive coal ash research has been done at UNC Charlotte, particularly around technologies to reduce the leachability of CCR. Our key COE researchers include Drs. Shen-En Chen, John Daniels, Rajaram Janardhanam, Milind Khire, Vincent Ogunro, Miguel Pando, Youngjin Park, and Brett Tempest in Civil and Environmental Engineering Department and Dr. Tara Cavalline in the Engineering Technology & Construction Management Department. Coal ash research is integral to a stronger water supply infrastructure. So it seemed natural that the ASCE Student chapter leverage the Department's expertise as a foundation for their Innovation Contest project.

"We were given five topics to choose from," Murray shared. "We went with 'Improvements in Clean Water,' and took on the challenge of developing a better way to treat water from coal ash basins." The team's innovation solution was to embed brewer's yeast into a 15'x5'x5' semi-permeable reactive basin. As water passes through the organic basin walls, the yeast absorbs substances like boron. In certain environmental conditions, boron-based compounds can be very high in coal ash leachate. Although not a heavy metal, it is harmful to plants and animals in extremely high concentrations.

"Brewer's yeast is actually very cost effective now, because of all the micro-breweries," Murray said. "Using the yeast to reduce contamination in coal ash has the potential of preventing millions of dollars of environmental damage. This idea can also be applied to other environmental hazards around the globe." ◆

REYNOLDS FELLOWSHIP
RECIPIENTS NAMED

Eight students who represent a number of educational disciplines are this year's recipients of the Thomas L. Reynolds Graduate Student Research Award. **Xueying Brown**, one of our doctoral students, is studying the role of environmental buffers in potable water reuse. She's pictured here with the other seven recipients (first person from left, on the second row).

Fellowship Recipients and staff pictured here with Thomas Reynolds (front row in blue coat)

The Reynolds Fellowship was created by its namesake, Associate Provost and Graduate School Dean Tom Reynolds (pictured on the front row, in suit and tie), to assist with costs that are overlooked in other funding sources and to help students stay focused on their research goals. The Reynolds Fellowship provides up to $1,500 to doctoral students who have completed three semesters and to master's students who have completed at least one semester.

In addition to Dean Reynold Award, Xueying won Best Poster at NC AWWA-WEA annual conference in Raleigh, and will get conference travel to present her poster at the next national AWWA conference. She also received Best Dressed and Most Humanitarian Research designations among the posters. ◆

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http://Facebook.com/UNCCharlotteCEE

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Search for the CEE Alumni LinkedIn Group

ALUMNI: Share Your News

Please send us news of your latest accomplishments, awards, or recognition.
Email your announcement to the department at cee.dept@uncc.edu.
Be sure to include your: Name, mailing address (if updated), company name, degree, major and class.

SPOTLIGHTED: Grant Awards & Publications

AWARDS (JUNE - NOV 2019)
Nicole Braxtan, Arclin, Inc., "Arclin Fire Resistant Coatings: Experimental Fire Testing", $33,785

Wei Fan, NCDOT, "Bicycle Volume Counting Machine Validation and Correction, Estimating and Forecasting, and Analysis of Injury Risk", $236,952

John Daniels, NSF, "Engineered Water Repellency to Mitigate Frost Susceptibility: Decoupling Osmotic and Matric Potential", $ $335,315

Brett Tempest, NCDOT, "Evaluating Corrosive Site Performance and Policy with Concrete Admixtures", $5,500

Srininvas Pulugurtha, NCDOT, "Mini-Roundabout CMF Development, $181,948

SELECTED JOURNAL AND CONFERENCE PAPERS (JUNE - NOV 2019)
Chen, S-E, Tang, W., Irizarry, A., Baez-Rivera, Y., Pando, M.A., Majrekar, M., Young, D., and Ng, Y. (2019), "Post Hurricane Investigations - A Critical Component towards Improved Grid Resiliency – Hurricane Maria in the Puerto Rico", *ASCE Journal of Performance of Constructed Facilities*, Accepted for publication, 9 pages

Chen, Z. and **Fan, W.**, Analyzing Travel Time Distribution Based on Different Travel Time Reliability Patterns Using Probe Vehicle Data, Accepted for Publication, *International Journal of Transportation Science and Technology*, October, 2019

Chen, Z. and **Fan, W.**, Data Analytics Approach for Travel Time Reliability Pattern Analysis and Prediction, *Journal of Modern Transportation*, https://doi.org/10.1007/s40534-019-00195-6, pp. 1-16, 2019

Gu, J.J., Jiang, Z., **Fan, W.**, Wu, J. and Chen, J., Real-Time Passenger Flow Anomaly Detection Considering Typical Time Series Clustered Characteristics at Metro Stations, Accepted for Publication, *ASCE Journal of Transportation Engineering*, Part A: Systems, September 2019

Lambirth, K.C., Tsilimigras, M.C.B., Johnson, J., Al-shaer, A., Wynblatt, O., Sypolt, S., Brouwer, C., Clinton, S., **Keen, O.**, Redmond, M., Fodor, A. and Gibas, C. (2018) Impact of treated wastewater release on antibiotic concentrations and antibiotic resistance markers in urban stream microbial communities. *Water* (special issue) 10(11), 1539-1560

Liu, P. and **Fan, W.**, Analysis of Head-On Crash Severity Using A Partial Proportional Odds Model, Accepted for Publication, *Journal of Transportation Safety & Security*, https://doi.org/10.1080/19439962.2019.1667933, September 2019

Li, Y. and **Fan, W.**, Modelling Severity of Pedestrian-Injury in Pedestrian-Vehicle Crashes with Latent Class Clustering and Partial Proportional Odds Model: A Case Study of North Carolina, *Accident Analysis and Prevention*, July 2019. Volume 131, pp. 284-296, 2019

Mapara, S., Patel, U.D., **Keen, O.S.** and Ruparelia, J.P. (2019) Significant improvement in biodegradability of a real optical brightening agent (OBA) wastewater using small doses of Fenton's reagent. *Environmental Technology*, doi: 10.1080/09593330.2019.1692912

Neth, N.K., Carlin, C.M. and **Keen, O.S.** (2019) Transformation of common antibiotics during water disinfection with chlorine and formation of antibacterially active products. *Environmental Science: Water Research and Technology* 5, 1222-1233

Neth, N.K. and **Keen, O.S.** (2019) Using size-exclusion for improved extraction of trace organic compounds from landfill leachate. *Waste Management and Research* 37(6), 651-655

Teng, J., Chen, T. and **Fan, W.**, An Integrated Approach to Vehicle Scheduling and Bus Timetabling for an Electric Bus Line, Accepted for Publication, *ASCE Journal of Transportation Engineering*, Part A: Systems, July 2019

Xu, Y.L., **Fan, W.**, Cheng, P.F. and Shan, L.Y., Mechanical Characterisation of Interface Shear Strain of Multi-Layer Composite Pavement, *International Journal of Pavement Engineering*, https://doi.org/10.1080/10298436.2019.1662905, September 2019

Zhao, J., **Fan, W.** and Zhai, X.H., Identification of Land-use Characteristics Using Bicycle Sharing Data: A Deep Learning Approach, Accepted for Publication, *Journal of Transport Geography*, October 2019 ◆

ALUMNI SPOTLIGHT: Leadership & Commitment

Jackie Jarrell, PE, has been appointed to be the 2019-20 president of the Water Environment Federation (WEF), an international organization of water quality professionals headquartered in Alexandria, Va.

Jackie, who received her BS in Civil Engineering from UNC Charlotte (1984), has been with Charlotte Water for more than 29 years. As wastewater operations chief she has been responsible for wastewater operations with total permitted capacity of 123 million gallons per day (MGD), with the largest plant permitted at 64MGD, the related residuals program producing more than 90,000 wet tons/year, oversight of regulatory functions, process control, and continuous improvement programs within the operations areas. Recently, Jackie was appointed as an interim deputy director for Charlotte Water. This has expanded her role to oversee customer service, communications, industrial pretreatment, laboratory services, and the Industrial Pretreatment Program, with more than 60 significant industrial users.

Also an active member of the North Carolina Water Environment Association (NCWEA), Jackie served as the Membership Association (MA) chair in 2013. At that time, she lead the MA in developing NCWEA's strategic plan in 2013. Over many years volunteering for NCWEA, she chaired several committees including the Nominating Committee, the Public Education Committee, the Annual Conference Committee, and the Program Committee. She also worked on several committees such as Water for People (including a trip to Bolivia in 2011), the Wastewater Schools Committee, the Endowment Committee, and the Plant Operations Committee. Well done, Jackie. ◆

[SOURCE: https://www.wef.org/about/board-of-trustees/, Oct. 8, 2019]

ALUMNI SPOTLIGHTS: NINER STRONG

On the surface, WSP is an engineering consulting business. It's responsible for the design of roadway, drainage, structures, water/sewer, traffic control plans, permitting, and the like. Standard stuff for engineering companies. But to a large number of our CEE graduates, WSP is more than an award-winning top-ranked engineering firm with an international footprint. It's home.

The following article explores the experiences of five of our College of Engineering graduates who work at WSP. They are **Daniel Milde**, EIT (DM), **Taylor Smith** (TS), **André Mullins**, PE (AM), **Richard Odynski** (RO), and **Brittany Hause** (BH). Daniel graduated in 2017 with a BSCE with a concentration in structures. He also has a degree in German. Taylor (2018) also has a BS in Civil Engineering. Her concentration was in transportation. André graduated in 2005 with a BS in Civil Engineering Technology. Richard earned his BSCE in 2006. Brittany has a BS in Biology, an MS in Public Health, and a BS in Civil Engineering.

What career advice can you offer our current COE students?

DM: I would recommend current students to apply for as many internships as possible, even if they may not be directly related to their school work. Internships are the best way to get a feel for not only a possible career path, but also for a company and how it is run. I had 3 internships under my belt before I graduated and each one, while in different industries, showed me what I enjoyed and what I didn't. It doesn't matter what industry the internship is based in so much as what you learn while you are there. To companies seeking valuable members of their team, that experience is like gold.

Daniel interned with three area engineering firms: CB&I, RS&H, and WSP.

TS: Make sure to take advantage of every opportunity to get in front of potential employers (engineering picnic, career fairs, meet and greets), getting to know past alumni and companies now will help you to start building your professional network which will help you in the future.

Taylor was involved in Chi Epsilon Engineering Fraternity, held an office with the student chapter of ASCE, and served as a CEE Student Ambassador, among other things. During her last two years in CEE, she interned with WSP.

Top Row: Charles Heafner, Andrew Scott, Eric Bowman, Alex D'Aiuto, Chelsea Radcliff, Andre Mullins, Karen Rivera, Daniel Milde, Jeff Ho, Owen Britt

Bottom Row: Richard Odynski, Taylor Smith, Jennifer Starnes, Angela Parker, Theara Ban

BH: Be willing to try things out that you may not have considered, because you may end up finding a career you love. I never considered aviation, but am so glad I applied to an internship for airport design because I absolutely love it.

In what concrete ways did your UNC Charlotte education prepare you for your work as an engineer?

DM: While in school I often heard that much of what you are learning won't be applicable to your future job, but I found the opposite to be true. The skills you learn at UNC Charlotte are invaluable for setting you up with a baseline for your career. You may not be a master of everything at the end of your education, but you are certainly prepared to succeed. When I began my career as a bridge engineer, I certainly felt overwhelmed. There was a completely new vocabulary to learn, several new programs, and the juggling of new responsibilities. What kept me afloat through all this confusion were the fundamentals and the work ethic I learned from my education. Surprisingly, designing a steel or concrete beam in school is remarkably similar to designing one in real life!

TS: UNC Charlotte provided me with the building block to continue to grow and develop with my career.

BH: Many professors conducted their classes in a way that the knowledge and tools from the courses are relevant to the real world. I was excited about all the knowledge and tools I gained throughout my time at [UNC Charlotte] that I was able to apply to my current job. Also, when I talk with coworkers that graduated from different universities, they are always impressed with all the applicable knowledge that was a part of the [UNC Charlotte] program. One example, I took Jack Christine's Airport Design course and have been able to apply that knowledge to daily in my career and most recently in working on a project at the Charlotte Douglas International Airport.

As an aviation planner, Brittany has the opportunity to travel all over the country and internationally working on a wide variety of projects.

Any surprising life lessons learned as a CEE student at UNC Charlotte?

DM: I would say that I'm continuously surprised by how important the connections I made in school were. I can't tell you how often I run into fellow alumni while working in my industry. Even if I only knew them passingly, that connection has the potential to blossom into a strong work relationship in the future. Sometimes these connections can even help you get a job!

Daniel is currently working on the Charlotte I-485 widening project. He also played a key role in the NC 540 project in Raleigh NC.

TS: Employers do not expect you to know everything right out of school, but they do expect you to work hard and grow with the company.

Some of Taylor's roles include managing the lane widening project from I-77 to US 74 and express lane projects along I-485.

AM: Time Management and Organization.

André is a lead Water Resources Engineer at WSP. During his almost 15-year career, he's been with several engineering firms. While a student, he interned with Armstrong Glen in Charlotte. In addition to a BSCE from our program, he holds an Associate's degree in Civil Engineering Technology from Central Piedmont Community College and serves as the VP of the local Engineers Without Borders Chapter.

RO: Organization and communication are crucial.

Richard is a Senior Traffic Engineer with WSP. During his 18+ year engineering career, he's worked with multiple firms and for NCDOT, on projects ranging from the I-485 express lanes to the I-85 widening.

BH: Networking matters. Be a part of student organizations and go to the meetings and the events where you get to interact with people working in the field because you never know when you're going to need a contact. Also, I learned that there are so many more career paths than the few you learn about in your first year and going to the career fairs and talking with people really opened my eyes to the different opportunities that are out there.

As you can tell, the responses from our alums are as varied as their career paths but one thing is evident—they are all **NINER STRONG**.

WSP's local office is within earshot of Bank of American Stadium where the Carolina Panthers play in Uptown Charlotte. Visit wsp.com for more information about this firm. ◆

NINER SPIRIT: Committed to Service

Brian Smith is a founding partner of Urban Design Partners (UDP) in Charlotte. He graduated from CEE with a BS in Civil Engineering in 1997 and helped start UDP in 2005.

For the past three years, Brian has been a mentor for CEE Senior Design teams. David Naylor, CEE Associate Professor of Practice, directs our Senior Design Program. He shares this about Brian, "He has helped obtain projects for the students ... and has even offered students to come to his office and have some of his staff help mentor them on their projects."

If you would like to help mentor a CEE student (or team) or even provide ideas for projects, please contact Professor Naylor at dnaylor@uncc.edu.

Urban Design Partners is a site development design firm focused on landscape architecture, civil engineering, and site design. It has three locations in the Charlotte area.

Check out all six 49ers on the UDP team at www.urbandesignpartners.com/team.

That's NinerStrong. ◆

AIRPORT SEMINAR: Wealth of Expertise

Last October, the Department held it's second annual Airport Engineering Seminar. Event partners were once again Charlotte Douglas International Airport (CLT) and the Carolinas Aviation Museum. The two-day program featured a behind-the-scenes tour of the airport and offered over 11 professional development hours (PDHs) to licensed engineers and architects.

This year's agenda catered to the needs of practicing airport professionals. The top three sessions were airport capital financing, aiport safety and security, and marking, lighting, and signage. "[A] wealth of professionals and technical expertise," one attendee described the seminar.

The keynote speaker on Day 1 was former NASA astronaut Captain Winston Scott (retired Navy). He shared memories from his Space Shuttle missions and three space walks, in addition to his path to engineering as a music major. Captain Scott has an M.S. degree in aeronautical engineering with avionics from the U.S. Naval Postgraduate School in Monterey, California.

Over 160 airport professionals attended the seminar this year. About one third of them came from North Carolina; with the balance coming from Pennsylvania, South Carolina, Missouri, and Georgia. Special thanks goes to our 15 sponsors (listed alphabetically): AG Zoutewelle, AVCON, Delta Airport Consultants, Gresham Smith, HDR, HNTB, Holder-Edison Foard-Leeper, Kimley-Horn and Associates, Messer Construction, RS&H, S&ME, STV, Talbert, Bright & Ellington, TY Lin, and WSP. ◆

FACULTY SPOTLIGHT: Special Recognition

Dr. Milind Khire was recently awarded the distinction of Board Certified Environmental Engineer (BCEE) from the American Academy of Environmental Engineers and Scientists. This certification signifies his specialty in solid waste management.

The American Academy of Environmental Engineers and Scientists® is a not-for-profit 501(c)(6) organization serving the Environmental Engineering and Environmental Science professions by providing Board Certification to those who qualify through experience and testing. The Academy also provides training through workshops and seminars, participates in accrediting universities, publishes a periodical and other reference material, interacts with students and young professionals, sponsors a university lecture series, and rewards outstanding achievements through its international awards program.

Dr. Khire specializes in waste containment systems (landfills), field-scale testing of soil, water, and waste systems, hydraulic and thermal properties of soil and waste, and electrochemical treatment of water contaminated with organic chemicals. He has been with the CEE department since 2014. His most recognized contribution has been the design of water balance or earthen final covers for landfills. He has co-edited three books on waste management and has authored over 100 papers and reports. Dr. Khire holds three U.S. patents for technologies which manage leachate from landfills. Congratulations, Dr. Khire. ◆

ENVIRONMENTAL ENGINEERING: Award-Winning Innovation

The First Annual CEE Graduate Research Symposium was held last September. The event, which featured the research of 16 CEE students during an evening of socializing, drinks, and food, was the brainchild of **Dr. Olya Keen**. Because of the cutting-edge emphasis, the gathering was dubbed Innovations in Civil and Environmental Engineering Symposium, or "iCEEs" for short.

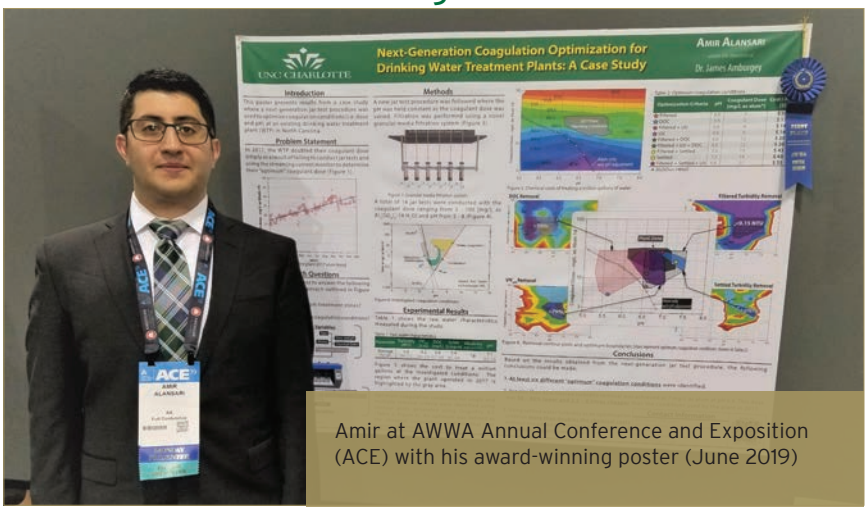
This event gave our students the opportunity to present their work in a supportive and competitive environment. They were judged on the technical content of their posters, as well as the timeliness and clarity of their presentation. Their goal was to win an all-expense paid trip to the research conference of their choice to present their findings.

The symposium featured innovative research from environmental, structural, and transportation engineering disciplines. Judges consisted of faculty and engineers from consulting firms in the Charlotte area.

After a catered reception, complete with multi-flavored Icee popsicles, the winners were announced. Doctoral candidate, **Adeola Sorinolu** (advised by **Dr. Mariya Munir**), won the top prize. Honorable mentions were given to **Bristol Grohol** (Class of 2019), **Xueying Brown**, and **Amirhossein Rezaei Adaryani**, also pictured here. We're proud of all our students and congratulate them on their success. ◆

ENVIRONMENTAL ENGINEERING: Award-Winning Innovation

Amir Alansari is a CEE grad student with expertise in many areas, including water purification technology, drinking water treatment, computational models, and water quality analysis. His latest accomplishments have been specifically in the area of innovative coagulation methods for drinking water. His current goal is to develop a practical and universal model for coagulation. You could say he is obsessed with the topic. He's even developed a website, complete with computer models and videos of jar tests, the lab test used by water treatment facilities to determine the minimum dose of chemicals needed to cause impurities in raw (source) water to clump and settle out.



Amir at AWWA Annual Conference and Exposition (ACE) with his award-winning poster (June 2019)

Amir's years of hard work have paid off. He's developed what he calls the 'next generation' of jar test procedures. "We've been diligently working on perfecting the procedure," he says on his website, "as well as creating tools and supporting materials that make jar testing simple and easy for everyone, regardless of experience or background."

Amir's interest in drinking water research began in Dubai, UAE, his home country. He's currently working on his Ph.D. under Associate Professor **Dr. James Amburgey** (Amir's former MS degree advisor). "The focus of my study," Amir shares, "is to develop a general model for coagulation with aluminum sulfate that has practical applications." Although coagulation with aluminum sulfate (commonly called alum) dates back to the 1500s (BCE) in Egypt, due to the dynamic nature of water, a standard method has not been developed for modern drinking water treatment. Amir continues, "The goal is also to identify the parameters that control coagulation under various conditions and which would ultimately lead to a new understanding of the coagulation process." He aims to pin down all the variables and create an easy-to-use model that can be used to eliminate the trial and error element from the process. This will help water treatment facilities save time and money as they seek to deliver a safe and reliable source of drinking water to the public.

In the meantime, he just keeps racking up research awards. Here are some of them: June 2019 - National Poster Contest, AWWA Annual Conference & Exposition; March 2019 - Top Prize, Student Poster Contest, SC-AWWA|WEASC; November 2018 - First Place, Student Poster Contest - NC-AWWA|WEA; June 2018 - NSPE Milton F. Lunch Ethics Contest Winner ◆

NEW STAFF MEMBER: Welcome Kristy Lowman, MA

Kristy is our new Undergraduate Academic Advisor. She assumed her CEE role in July 2019. Kristy came to UNC Charlotte as a College of Liberal Arts and Sciences advisor in August 2018. She is a proud 49er alumna, having received both her Bachelor of Arts in Applied Anthropology and Master of Arts in Liberal Studies, concentrating on English, from UNC Charlotte.

Kristy is now working on her doctoral studies, also at UNC Charlotte, in the Ed.D Higher Education Concentration. She is a first-generation, non-traditional college student and knows just how life changing education can be. She brings her enthusiasm and passion to every student she helps navigate along their own educational journey. Kristy enjoys spending time with family and friends, road trips, live music and sharing a laugh. Welcome to the CEE family, Kristy!

Q&A: Triple "NC Safe Water" Winner


Above Left: Heather with three of her four girls
Right: Heather with her AWWA-WEA Conference buddies

CEE early entry MS student, **Heather Oakes**, received three scholarships from NC Safe Water at the Fall 2019 AWWA-WEA Conference. Awards are very competitive; receiving three at once is impressive.

Q: Heather, What's the key to your success?

Heather Says:

"With the help of the professors, water professionals I've met through my involvement in AWWA-WEA and through experience in the lab and via internships, I have opened the door to a bright future working with the natural environment. I came back to [college] to do potable water projects in areas suffering water scarcity and fell in love with the science behind wastewater treatment." ◆

[AWWA WEA stands for American Water Works Association, Water Environment Association; NSPE stands for National Society of Professional Engineers]

Visit cee.uncc.edu for more information

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UNC Charlotte Students Traveled to Sichuan, China for Summer Classes

Submitted by CEE Professor, Dr. Shen-en Chen

Seven CEE students (**Yenki Ng, Matt Benfield, Jasmine Mira, Jonathan Gates, Erin Jebsen, Bryan Moreno, and Isabel Srivoraphan**) traveled to the Sichuan University of China for a two-week summer class, as part of the Sichuan University Immersion Program (UIP).

Sichuan University is situated in Chengdu City, the site of the 2008 Sichuan earthquake where 87,000 people died. Sichuan earthquake (magnitude 8) was located as part of the Longmen Shan Fault System, situated in the eastern border of the Tibetan Plateau and contains several faults. As part of the class project, the students visited the earthquake site and collected data on grid failures to assess the disaster impact on the power infrastructure and the measures of the resilience of the region after the disaster.

With the Terra Cotta Solidiers near Xi'An Technical University in China

The professors and students at Sichuan University were very good hosts to us including Professor Kaoshan Dai, Drs. Songhan Zhang, Yuanfeng Shi, Yang Lu, and Ms. Dan Lu, Mr. Linjin Yu, Zhouyu Zhou, Hai Huang and Jingzhao Zhang of Sichuan University. Professor Dai, Chair of the Civil Engineering Department, is a 2011 UNC Charlotte graduate. While in Chengdu, we also visited the Xinan Jiaotong University and visited their full-scale testing facilities for earthquake and wind tunnels. Our host there was Professor Yuchun Zhang, chair of the Tunnel Fire Engineering Department.

After spending 10 days in Chengdu, we then traveled to Xi'An and visited the Xi'An Technical University and saw the famed Terra Cotta soldiers. Professor Qiang Sun and his wife hosted us and we enjoyed an outdoor barbeque.

We then traveled to Xuzhou, home to the China University of Mining Technology. We had banquets with Vice-Chancellor Zhengfu Bian and Professors Dongming Pan and Jianhua Yue. We also met several professors who had been to UNC Charlotte including Juanjuan Li, Dan Jin, Meingshun Hu, Xioaqing Li, and Shaogang Lei. Our last stop was Beijing, where we visited the Forbidden City and climbed the Great Wall. Professor Haiyan Yang of the East China University of Technology, who visited UNC Charlotte in 2018, traveled to Beijing to take us out to dinner and a nice time at karaoke. All in all, the trip was very successful and rewarding. ◆