UNC CHARLOTTE
The WILLIAM STATES LEE COLLEGE *of* ENGINEERING

Newsletter: FALL **2018**

cee.uncc.edu

CEE News
CIVIL & ENVIRONMENTAL ENGINEERING Department

LETTER FROM CEE Department Chair

As you can read in the pages that follow, our students, faculty, staff and alumni continue to make an impact regionally, nationally and internationally. All indicators continue in a positive direction, including research expenditures that are among the highest on campus, steady enrollment growth, student and faculty awards, a new Ph.D. program to name a few.

I'm especially excited about our evolving airport initiative. The Charlotte Douglas International Airport (CLT) is in the midst of spending $2.5 billion in new construction over the next five years. We intend to leverage that construction as a living laboratory and are working with the leadership at CLT to make that happen. Already our students have had access to behind-the-scenes tours of state-of-the-art design and construction in progress. And Jack Christine, the Chief Operating Officer of CLT, teaches several courses to a growing number of interested students. This is all part of our effort to work toward a larger vision that could have major impacts for Charlotte, the State of North Carolina, and beyond, including workforce development programs, community engagement initiatives, research programs, and facilities that will be of interest to the entire airport construction and aviation industry. In service of that larger vision, we hosted our "Airport Engineering Seminar" at the Carolinas Aviation Museum hangar; literally right under the wing of Flight 1549 (the "Miracle on the Hudson" airplane). More than 100 aviation engineers and related professionals took part in the seminar, with representation from the Federal Aviation Administration, American Airlines, multiple state departments of transportation and consulting firms nationwide. The event was sold out and plans are already in the works for a 2019 seminar. More than a dozen engineering firms came alongside with generous sponsorships. If you'd like to be a corporate sponsor, please let us know. Read more about the 2018 seminar on page 6.

Our department now has another Ph.D. program. In addition to our well-established interdisciplinary Ph.D. in Infrastructure and Environmental Systems, we now offer a Ph.D. program in Civil Engineering. We could not be happier to be UNC Charlotte's 24th doctoral program. The UNC General Administration approved our plan in July 2018. We'll start enrolling our first students this fall. Read more about that on the last page.

Our faculty are actively participating in research projects with the national and international influence. For instance, Dr. Mei Sun is an active part of a $5 million water engineering research collaboration with funding directly appropriated by the State of North Carolina. And Dr. Vincent Ogunro was awarded the Carnegie African Diaspora Fellowship. An honor that was awarded to only 50 other researchers in the U.S. Another research highlight of the fall semester was the NSF S-STEM 5-year award that Dr. Brett Tempest won to address the educational disparity for low-income high school students in North Carolina, with funding in excess of $1 million.

Our faculty are directly involved in engineering work that saves lives. Consider the work by Dr. Janos Gergely and his travels to Alaska, Florida and in our own backyard to respond to emergencies created by earthquakes and hurricanes. See his article on page 6. Also check out our feature article, which highlights 6 of our alumni doing great things at GeoPier Foundation Company. Go Niners!

John Daniels
Professor and CEE Department Chair

CEE @ A GLANCE

UNDERGRAD STUDENTS:	DOCTORAL STUDENTS:	MASTERS STUDENTS:	FACULTY MEMBERS:
475	69	57	25

UPDATED: DEC. 2018

IN THIS Issue

CONTINUING AN EPIC Adventure Abroad

When **Kaitlyn (Chapman) Worley** graduated in May 2016 with a bachelor's degree in Civil and Environmental Engineering, she wasn't expecting to live abroad just over a year later. But when her husband's engineering company offered them a relocation opportunity in the Netherlands, it was an easy decision. Kaitlyn's first international trip had been just two years earlier through the UNC Charlotte Energy Production and Infrastructure Center's summer exchange program with the Karlsruhe Institute of Technology in Germany. It was over those few weeks she first experienced European cultures, history, and foods. She was happy to return for a longer stay.

Upon graduation, Kaitlyn joined the land development firm McAdams in Durham, NC as a Civil Engineering Designer. After moving to the Netherlands, she began working remotely as a consultant with the company's Public Engineering Services team which focuses on institutional and public projects like university campuses, local community spaces, and state parks.

During her time at UNC Charlotte, Kaitlyn's interests in the environment, sustainable development and green infrastructure led to her involvement in numerous student organizations, including the College of Engineering Leadership Academy and the Charlotte Green Initiative, which she chaired for two years. Kaitlyn interned with the University's sustainability office and presented posters at several intercollegiate conferences about her involvement with UNC Charlotte's award-winning Zero-Waste football stadium. As part of the Levine Scholars Program, Kaitlyn spent her summers with the nonprofit organizations Envision Charlotte and the Environmental Defense Fund. During her senior year, she also led and helped fund the University's Green Globes certification for Levine Hall.

Have wheels. Will travel.

Kaitlyn aims to combine her interests in sustainability and urbanism in her future career, and the Netherlands is a global leader in these areas. Being one of the most densely populated countries in the world, it is also well known for its vast bicycle networks, accessible public transportation, impressive storm and seawater management systems, and iconic use of renewable wind energy through old windmills and modern wind turbines. She is constantly reminded of the efficiency, density, and mobility the Dutch have been developing for centuries. Kaitlyn continues to grow her professional network within the EU and hopes to bring much of this new knowledge back to the U.S. and apply it in her lifelong career. ◆

Courtesy: Kaitlyn Worley (BS, 2016)

WINNING Presentation

Xueying Brown won both the top award and the People's Choice in the 2018 Three-Minute Thesis (3MT®) competition on November 9, 2018. She is a Ph.D. student in Infrastructure and Environmental Systems and a M.S. graduate from the Department of Civil and Environmental Engineering, UNC Charlotte. As the top winner, she will represent UNC Charlotte to compete at the Conference of Southern Graduate Schools annual meeting in Knoxville Feb. 14, 2019. Her winning presentation was on Potable Water Reuse: Are Environmental Buffers Really More Effective?, under the supervision of Dr. Olya Keen of Civil Engineering. Originating at the University of Queensland, Australia, 3MT® challenges graduate students to condense their graduate body of work into a clear and engaging three-minute presentation supported by only one static overhead slide. ◆

Courtesy: UNC Charlotte College of Engineering Newsfeed

Xueying, the "People's Choice"

Like Us: On Facebook
http://Facebook.com/UNCCharlotteCEE

Follow Us: On Twitter
http://Twitter.com/UNCC_CEE

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: Publications & Presentations

AWARDS
Jim Bowen (2018) NC Policy Collaboratory, $350,000.

Olya Keen (PI), Jim Bowen (2018-2019) Charlotte Water, "Environmental Services and Student Experiential Learning" $159,187.
Olya Keen (PI) NC Urban Water Consortium (2019) "Treatment of algal toxins in drinking water with UV/Cl2 and UV/H2O2 advanced oxidation: toxicity of transformation products and effect on disinfection byproduct formation" $60,000.

Mariya Munir (PI), 2018-2019, "Bacterial Community Composition in the Bioreactor for FGD Wastewater", Duke Energy, $77,885.
PI: Way Sung (Bioinformatics), Co-PI: Mariya Munir; Rapid and Accurate Bio-surveillance of Hazardous Agents using Droplet-Digital PCR; funded by UNC Charlotte; $55,000; Mei Sun, Mariya Munir and David Vinson; Evaluation and optimization of engineered media amendments for contaminant removal in stormwater runoff filtration systems; NCDOT; $249,950.

PAPERS
Bowen, J. D., & Harrigan, N. B. (2018). Water Quality Model Calibration via a Full-Factorial Analysis of Algal Growth Kinetic Parameters. *Journal of Marine Science and Engineering*, 6(4), 137. https://doi.org/10.3390/jmse6040137

Hopkins, Z. R., Sun, M., DeWitt, J. C., & Knappe, D. R. U. (2018). Recently Detected Drinking Water Contaminants: GenX and Other Per- and Polyfluoroalkyl Ether Acids. *Journal - American Water Works Association*, 110(7), 13–28. https://doi.org/10.1002/awwa.1073

Keatts, M. I., Daniels, J. L., Langley, W. G., Pando, M. A., & Ogunro, V. O. (2018). Apparent Contact Angle and Water Entry Head Measurements for Organo-Silane Modified Sand and Coal Fly Ash. *Journal of Geotechnical and Geoenvironmental Engineering*, 144(6), 04018030. https://doi.org/10.1061/(ASCE)GT.1943-5606.0001887

Keen, O., Bolton, J., Litter, M., Bircher, K., & Oppenländer, T. (2018). Standard reporting of Electrical Energy per Order (EEO) for UV/H2O2 reactors (IUPAC Technical Report). *Pure and Applied Chemistry*, 90(9), 1487–1499. https://doi.org/10.1515/pac-2017-0603

Lou, Z., Zhou, J., Sun, M., Xu, J., Yang, K., Lv, D., Zhao, Y., & Xu, X. (2018). MnO2 enhances electrocatalytic hydrodechlorination by Pd/Ni foam electrodes and reduces Pd needs. *Chemical Engineering Journal*, 352, 549–557. https://doi.org/10.1016/j.cej.2018.07.057

Malinowski, P. A., Wu, J. S., Pulugurtha, S., & Stillwell, A. S. (2018). Green Infrastructure Retrofits with Impervious Area Reduction by Property Type: Potential Improvements to Urban Stream Quality. *Journal of Sustainable Water in the Built Environment*, 4(4), 04018012. https://doi.org/10.1061/JSWBAY.0000866

Okioga, I. T., Wu, J., Sireli, Y., & Hendren, H. (2018). Renewable energy policy formulation for electricity generation in the United States. *Energy Strategy Reviews*, 22, 365–384. https://doi.org/10.1016/j.esr.2018.08.008. ◆

INES GRADUATE Becomes NAS Fellow

Dr. Raka Goyal, a December 2015 graduate of our INES doctoral program, has been awarded a National Academies of Sciences (NAS) Fellowship to serve as a Post-Doctoral Fellow at the Federal Highway Administrations' Turner-Fairbank Highway Research Center in McLean, VA. Raka will support the Long-Term Bridge Performance (LTBP) program at FHWA. Her selected proposal was titled "Developing probabilistic bridge deterioration models based on non-destructive evaluation of concrete bridge decks using multiple NDE technologies" and was formulated around extending the expertise and novel methodologies that she developed through her doctoral dissertation research under NCDOT and NSF sponsored projects at UNC Charlotte. Her Fellowship appointment will be for a period of three years. ◆

STATEWIDE STUDY: Water Engineering Research

N.C. Policy Collaboratory Launches New Statewide Study on GenX with $5 Million State Appropriation

Dr. Mei Sun participated in a $5 million statewide collaborative research project on Emerging Contaminant Detection, Modeling and Impact Assessment.

The North Carolina Policy Collaboratory received a new $5,013,000 appropriation from the N.C. General Assembly as part of the State budget for the 2018-19 fiscal year to conduct baseline water quality testing for a set of chemicals classified as Per- and Polyfluoroalkyl Substances (PFAS) that include GenX, a potentially toxic industrial compound that has been detected in the Cape Fear River.

The study will be overseen by an advisory committee of faculty members from UNC Chapel Hill, UNC Charlotte, UNC Wilmington, Duke University, East Carolina University and North Carolina State University. Detlef Knappe, professor of Civil, Construction, and Environmental Engineering at NC State University, and Lee Ferguson, associate professor of Civil and Environmental Engineering at Duke University, are the co-chairs of the committee.

As mandated by the legislature, the study will require water sampling in all regions of the state, thereby establishing a baseline for researchers to continue monitoring long-term changes in North Carolina's water quality. The research will be conducted on a range issues, including drinking water wells, chemical compound removal and air quality impacts. The study's broad scope places it at the forefront of efforts to determine whether there is a problem of emerging contaminants. If a problem is identified, the study's scope includes determining its extent of impact and identifying practical solutions that protect the public from adverse health impacts of these compounds. Read more about the Collaboratory at https://collaboratory.unc.edu/. ◆

Source: https://collaboratory.unc.edu/news/2018/08/01/n-c-policy-collaboratory-launches-new-statewide-study-on-genx-with-5-million-state-appropriation/

A PERFECT
Foundation For Growth

In the words of ancient philosopher Augustine of Hippo, "The higher your structure is to be, the deeper must be its foundation." Foundations are important in the life of a building, a company, a person. Geopier, a Davidson, North Carolina based civil engineering company, knows about laying good foundations. Their innovative ground improvement systems and stabilization systems have been used all over the world. Due to the breadth of the Geopier geostructural footprint, Geopier is considered the second largest groundwork solutions firm in the U.S.

Dr. Kord Wissmann, Geopier's President and Chief Engineer, joined the company in Scottsdale, Arizona in 1998. In 2001, the company set up shop in Blacksburg, Virginia and grew to 10 employees. Seeking a more vibrant commercial hub with a larger airport that was close to a college town, Wissmann relocated the company's headquarters in Davidson about 22 miles north of UNC Charlotte. The next decade would bring the company, now operating under Tensar Corporation, enormous growth. By 2018, the number of Geopier engineers had more than tripled with six of them coming from UNC Charlotte's Civil and Environmental Engineering program. This article profiles these six alumni, starting with the Geopier's first 49er hire, James Hite.

UNC Charlotte College alumni at Geopier (list alphabetically by last name): Juan Gomez (BS 2018), James Hite (BS 2002; MS 2013), Mandi Petrella (MS, 2012), Zach Scarboro (BS 2007), Bethany Welch (BS 2017), and Sean Windt (BS 2011)

During his undergraduate senior year, **James Hite** (2002 BSCE, 2013 MSCE) joined Trigon Engineering Consultants, Inc. in Charlotte as a lab technician while wrapping up his BS degree. After graduation, he would go on to join the Trigon team and worked on a number of foundation installation projects at UNC Charlotte buildings including the original Union Parking Deck, the College of Education building, and the College of Nursing building. Five years later, as a registered PE, James joined Geopier Foundation Company. A large part of his work includes design and construction of Rammed Aggregate Pier® systems and Geopier® rigid inclusion technologies. He is currently the lead engineer and area manager for the Midwest area of the United States.

"UNC Charlotte allowed me an opportunity to get to know some of the greatest professors in civil engineering," James shares. "They guided me through complicated analyses that allow me to understand soil mechanics with a thorough and detailed understanding." These relationships also continue to evolve from mentor to colleague. The continued communication facilitates the placement of quality CEE graduates with geotechnical and structural concentrations.

Immediately after graduating from UNC Charlotte with a BS in civil engineering, **Zachary Scarboro** (2007) began working as a staff engineer with S&ME. He was an E.I. at the time. While there, his focus included performing subsurface investigations, providing recommendations for site work and construction, and retaining wall design. He left S&ME and took a similar position with PSI, Inc. Then in April 2011, he accepted a position with Geopier performing design work for various ground improvement projects across the U.S. and obtained his North Carolina PE license in April 2014.

Zach then began serving as one of Geopier's area managers, overseeing the commercial and technical development of all ground improvement projects in the Southern U.S. In May 2018, he began working with GeoStructures, a licensee of Geopier, as Southeast Regional Engineer where he focuses on the development of design/build opportunities for ground improvement projects in the NC and Southern VA areas.

Over the previous 7 years working at Geopier (and now GeoStructures), he has had the opportunity to work on many projects across the Southern US. Among Zach's favorite projects is designing the ground improvement solution for the New Tarmac Staging Area at NASA's Stennis Space Center. This included designing a ground improvement solution for rocket support pedestals at the facility.

Mandi Petrella graduated with a Bachelor of Science in Civil Engineering Cum Laude at Florida State University in the Spring of 2008. She obtained her EI certification in the same year and went on to work for ECS and later NCDOT. In the fall of 2009, Mandi began her MS studies at UNC Charlotte

part-time. About three years later, she started working for Geopier as a Project Manager where she created shop drawings and completed design calculations. That same year, she obtained her North Carolina Professional Engineers license and was promoted to Geopier Design Center Manager and earned Geopier's 'Outstanding Service Award' in Winter of 2012. In 2013, she was promoted again to Project Engineer providing technical and financial oversight for the lower Great Lakes Region (Kentucky, West Virginia, Ohio, Indiana).

In this photo (l-r): (standing) Kord Wissmann, James Hite, Brian Metcalfe, Sean Windt, (seated) Bethany Welch, and Juan Gomez. [Not pictured: Mandi Petrella and Zach Scarboro]

Currently, she is Geopier's Region Engineer for Florida, lower Alabama, and southern Georgia located in Thomasville, Georgia and is responsible for generating leads, heading local marketing efforts, providing technical presentations and background, completing design proposals, reviewing and sealing design calculations and shop drawings, overseeing installation/construction activity. She holds PE licensure in multiple states and is an active member of the American Society of Civil Engineers (ASCE) and Florida Engineering Society (FES). "If you start feeling comfortable, it's time to seek out the uncomfortable and place yourself in the middle of it," Mandi says. "Each interaction, assignment, or project presents an opportunity for growth with the right state of mind."

Sean Windt (BS, 2011), came to the company in 2013. A self-described science guy at heart, his passion for exploring and understanding the nature of things led him to study chemistry which turned into the study of geotechnology and physics. To Sean, geotechnical engineering provides an art aspect to a theory-intensive discipline. After a short stint with an engineering consulting company in Pittsburgh, Pennsylvania, Sean joined Geopier where he applies his love for engineering and science every day.

A memorable project involved designing ground improvement support for a new natural gas pad on very loose alluvial soils underlain by bedrock, which is akin to walking on ball bearings. He performed extensive analyses to verify the overall stability of the wall using referenced correlations for strength parameters and honed in on a solution that would otherwise require deep and expensive over-excavation of the site.

Bethany (Burks) Welch (BS, 2017) moved to Charlotte in 2013 from Maryland. After graduation, she remained in the area and took a position at Geopier. She's currently an Associate Project Manager with the company, working in the Design Center to create drawings in AutoCAD and the corresponding calculations and schedules for projects across the country. She received my E.I. certification in April 2017 and is working toward her PE license.

Notable projects for Bethany include the Radisson Hotel parking structure in Anaheim, California which included both basement and first level elevations that were supported with about 1,000 piers and will be under construction by the end of the year and the Patriot Wind Farm located in Nueces County, Texas. The wind farm project involved designing the support for 7 wind turbines with the diameters of 66'-68' using approximately 600 piers for complete coverage of each turbine. She especially enjoys the challenge of a complex project. Her largest project consisted of designing about 9,500 piers with slab, footing, and wall support while the smallest job was about 20 piers with only slab support.

"Each job I work on gives me new insight into the world of geotechnical engineering as each soil profile is different from the next and the technologies my company has patented are designed," Bethany says. "I am incredibly thankful every day for the education I received at UNC Charlotte that prepared me for the job I have today as it gave me the perfect foundation to grow and understand the work I do while still learning all that I can each day about the field I have chosen as my career."

> "I have a great team that's always willing to give me guidance and help me keep growing as an engineer."
>
> *Juan Gomez (BS, 2018), the sixth UNC Charlotte engineer hired by Geopier Foundations Company since 2007*

Juan D. Gomez (BS, 2018) is originally from Colombia, South America. He and his family moved to the United States when he was 13 years old. As a kid, he had a passion for building things and math came naturally to him so civil engineering was a natural choice. During his last semester of college, he interned for Wescott Structures PA and did a little bit of structural design. During that same semester, he served as lead geotechnical engineer for his Senior Design Project. This allowed him to meet Dr. Miguel Pando. "[Dr. Pando] was a great mentor," Juan says. Dr. Pando recommended that Juan apply to Geopier. That was less than six months ago. "I totally love it," Juan shares about his new role. "I get to work on a lot of different projects all over the United States and have a great team that's always willing to give me guidance and help me keep growing as an engineer."

Continued on the back page ...

AIRPORT ENGINEERING SEMINAR

The Airport Engineering Onsite Seminar hosted by UNC Charlotte's Civil and Environmental Engineering Department and Infrastructure, Design, Environment and Sustainability (IDEAS) Center was held Oct. 15-16 at the Carolinas Aviation Museum. The seminar featured presentations by industry, government and academic experts in airport design, construction, operation and maintenance.

Held in partnership with Charlotte Douglas International Airport and the Carolinas Aviation Museum, the two-day program featured a behind-the-scenes tour of the airport. This seminar offered 11 professional development hours (PDHs) to licensed engineers and architects. The keynote speaker was a first-hand account of what it was like to be a passenger on US Airways Flight 1549, the "Miracle on the Hudson" airplane.

Special thanks for seminar execution goes to Lee College of Engineering alumni **Ashton Watson** (2006), Airport Engineer at Charlotte Douglas Airport; **Jack Christine**, Chief Operating Officer for the airport; and **Carl Ellington**, Vice President of Talbert, Bright, and Ellington an engineering consulting firm working on several airport capital projects. ◆

SOURCE: https://engr.uncc.edu/news/2018-10-18/airport-engineering-onsite-seminar

To read more about CEE alum Ashton Watson's work at CLT, visit http://bit.ly/CLTAshtonWatson (case sensitive)

CIVIL ENGINEERING In Service

Janos, 2nd from left, with secondary response team after Hurricane Matthew in NC

Associate Professor **Janos Gergely** is an Urban Search and Rescue Structures Specialist (StS). A licensed professional engineer (PE) and structural engineer (SE), he has served in this role for a number of years. As first responders, StS serve the North Carolina public during search and rescue operations, as well as infrastructure disasters.

In 2018, he organized a training day for the North Carolina Emergency Management Urban Search and Rescue (USAR) Structures Specialist team. Fifteen engineers attended the day-long event held in EPICs High Bay Structures Lab, in addition to Charlotte Fire Department instructors and members of the ASCE Student Chapter.

In anticipation of widespread damage, he was pre-deployed for Hurricane Florence in 2018 and assisted in search and rescue operations in flooded areas of the State.

He also volunteers through the Disaster Response Alliance (a partnership between the International Code Council and the National Council of Structural Engineers Association) as a second responder, evaluating the structural integrity of the built infrastructure following natural disasters. His deployments include post-disaster investigations after the 2018 Alaska Earthquake (AK), 2017 Hurricane Irma (FL), and 2016 Hurricane Matthew (NC). [continued on P. 7]

Hurricane Irma, 2017

Hurricane Florence, 2018

Alaska Earthquake, 2018

STEM GRANT FOR ENGINEERING SCHOLARSHIPS, TRAINING

The National Science Foundation has awarded a $999,591 grant to UNC Charlotte to support high-achieving, low-income engineering students as part of the NSF's Scholarships in Science, Technology, Engineering and Mathematics (S-STEM) program. The UNC Charlotte program, called Engineering Academic Pathways, includes scholarship funds and programming to promote success among low-income students. Applications for the scholarships are now being accepted and the first awards will be made for fall 2019.

In this photo (l-r): Sejal Foxx (Co-PI), Chris McDaniel, Brett Tempest (Lead PI), Gina Robinson, and (far right) Stephanie Galloway (Co-PI) [Not shown: Chance Lewis (Co-PI) and David Pugalee]

The UNC Charlotte Engineering Academic Pathways program is a campus collaboration between the Colleges of Engineering and Education, and the UNC Charlotte Center for STEM Education. It will fund scholarships for 15 students as they pursue bachelor's degrees in engineering and engineering technology disciplines. The renewable scholarships will provide individual students with $10,000 a year for tuition and fees, and a $2,000 stipend for professional development. Programming and training will also be provided for guidance counselors of Title I schools in the area.

Along with increasing recruitment, retention and graduation of low-income students, a goal of the S-STEM program is to implement and study models, effective practices and strategies that contribute to student success. The program will build on the effective, recruiting, advising, curricular and co-curricular activities in STEM education that are provided by the UNC Charlotte Office of Student Development and Success which intakes over 600 new freshman engineering students each academic year. ◆

More information here: https://ninerscholars.uncc.edu/scholarshipsearch/scholarship.asp?id=1841

CARNEGIE AFRICAN DIASPORA FELLOWSHIP PROGRAM:

Supporting Projects in Africa

Dr. Vincent Ogunro was awarded a fellowship by the Carnegie African Diaspora Fellowship Program to travel to Nigeria to work with The Federal University of Technology Akure (FUTA) and Professor Oluwapelumi Ojuri on the "Development of an Appropriate Integrated Waste Management Infrastructure in Nigeria; Graduate Student Mentoring/Teaching in Geotechnical/Geoenvironmental Engineering". The key activities of the proposed project include: research to address environmental, public health and safety concerns associated with open waste dump sites or non-engineered disposal sites in Nigeria, and mentoring of graduate students in geotechnical/geoenvironmental engineering area of the Civil Engineering Department, FUTA, Nigeria.

This UNC Charlotte project is part of a broader initiative that will pair 51 African Diaspora scholars with one of 43 higher education institutions and collaborators in Ghana, Kenya, Nigeria, South Africa, Tanzania and Uganda to work together on curriculum co-development, research, graduate teaching, training and mentoring activities in the coming months. The visiting Fellows will work with their hosts on a wide range of projects that include controlling malaria, strengthening peace and conflict studies, developing a new master's degree in emergency medicine, training and mentoring graduate students in criminal justice, archiving African indigenous knowledge, creating low cost water treatment technologies, building capacity in microbiology and pathogen genomics, and developing a forensic accounting curriculum. To deepen the ties among the faculty members and between their home and host institutions, the program is providing support to several program alumni to enable them to build on successful collaborative projects they conducted in previous years.

The Carnegie African Diaspora Fellowship Program, now in its sixth year, is designed to increase Africa's brain circulation, build capacity at the host institutions, and develop long-term, mutually-beneficial collaborations between universities in Africa and the United States and Canada. It is funded by the Carnegie Corporation of New York and managed by the Institute of International Education (IIE) in collaboration with United States International University-Africa (USIU-Africa) in Nairobi, Kenya, which coordinates the activities of the Advisory Council. A total of 385 African Diaspora Fellowships have now been awarded for scholars to travel to Africa since the program's inception in 2013. ◆

Read more about the Carnegie African Diaspora Fellowship: https://www.iie.org/Programs/Carnegie-African-Diaspora-Fellowship-Program

CIVIL ENGINEERING In Service (continued from page 6)

More recently, Janos has been serving as a volunteer firefighter and an EMT at a local station which has been in existence since 1952. The station serves a 10-square-mile unincorporated area north of the greater Charlotte area.

Dr. Gergely serves as the faculty advisor for the ASCE Student Chapter and collaborated on structural evaluation and rehabilitation projects with COE researchers. ◆ SOURCE: COE newsfeed; edited by Dr. Janos Gergely

Visit cee.uncc.edu for more information

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UNC CHARLOTTE
The WILLIAM STATES LEE COLLEGE *of* ENGINEERING

COMING SOON: Ph.D. in Civil Engineering

With great excitement and pride, it is our pleasure to announce the Civil and Environmental Engineering (CEE) Department is now the home to UNC Charlotte's 24th doctoral program – the Ph.D. in Civil Engineering. This new program, along with our well-established Infrastructure and Environmental Systems Ph.D. program, positions CEE for continued ascent in national and international rankings.

The UNC General Administration approved the new doctoral program in July, 2018. We plan to begin enrolling our first students in August 2019.

Through the Ph.D. in Civil Engineering we will be able to significantly advance study and research in areas including structural health monitoring, full-scale blast testing of structures, use of industrial byproducts and geopolymers, engineered water repellency, advanced water treatment, and transportation safety and optimization. The Ph.D. program will also support students conducting civil-engineering-related research within a number interdisciplinary university centers and facilities Approximately 10 students will be admitted into the program per year, including up to four part-time students by 2023. Degree completion will require at least 72 approved graduate credits beyond the baccalaureate. Up to 30 approved credits from graduate courses taken during masters' degree studies may be transferred toward the Ph.D. in Civil Engineering.

For more information contact Dr. Jim Bowen, Graduate Director and Associate Chair, jdbowen@uncc.edu; 704-687-1215 ◆

ALUMNI SPOTLIGHT

[CONT'D FROM P.5]

Prior to making their first CEE hire, Kord Wissmann knew about the Lee College of Engineering at UNC Charlotte but didn't know about the suitability of the civil and environmental graduates to fill their geotech needs. Kord and Brian Metcalfe, Geopier's Vice President of Engineering, are both Virginia Tech grads and as such had plans to hire heavily from their alma mater. Kord admits that James' hire was outside their Hokie comfort zone. Their HR experiment led to bringing on more 49er engineers in addition to Hokies.

This strategy has helped Geopier realize double-digit annual growth since 1999. They hire for character and raw skill, according to Kord, and mold new employees through their in-house master class. Brian agrees. "Geopier has done well," Brian adds, "because of good people. People who always want to improve. UNC Charlotte has a way of attracting good [engineering students]." Geopier's leadership agreed that engineering talent was important but a solid foundation of excellent character coupled with a strong work ethic is also key for corporate growth. ◆

More information about Geopier can be found at https://www.geopier.com/

If you are an alumnus of our department and would like to be featured in a spotlight article, please email cee.dept@uncc.edu.