



Civil and Environmental Engineering
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Multiple Postdoctoral Fellow Positions Available in Transportation Engineering!

Position Description

Dr. Wei (David) Fan's research group in the Department of Civil and Environmental Engineering (CEE) at The University of North Carolina at Charlotte (UNC Charlotte) is currently recruiting multiple highly motivated Postdoctoral Fellows, starting immediately.

For these Postdoctoral Fellow Positions, applicants must hold (or about to obtain) a Ph.D. degree or equivalent in a relevant discipline (e.g., transportation, computer science, operations research, machine learning) and have experience and skills in analytical techniques (e.g., mathematical modelling and simulation, data fusion, optimization) in engineering. The applicants are expected to possess some excellent programming skills (e.g., Matlab, Python, and C++) and have an excellent research record for the positions being sought, including publishing papers in high quality, peer reviewed international journals. Initial appointment for the postdoctoral appointees will be one-year, and initial appointments may be renewed depending upon satisfactory performance and the availability of funds. Interested applicants are encouraged to send his/her detailed CV directly to Dr. Wei (David) Fan at wfan7@uncc.edu. Feel free to refer to his webpage at <https://sites.google.com/view/professorweifan/> for more detailed information. Review of applications will start immediately.

About the Center, Department, College, University and Region

The Center: Established in December 2016, the Center for Advanced Multimodal Mobility Solutions and Education (CAMMSE) is now up and running with numerous projects underway. UNC Charlotte is the lead in the multi-institutional initiative, which is funded by a \$8.4 million grant from the U.S. Department of Transportation. Other institutions involved in CAMMSE are Texas Southern University, the University of Connecticut, the University of Texas at Austin and Washington State University. The principal investigator and director for the center is Dr. Wei Fan of the Civil and Environmental Engineering Department within UNC Charlotte's Lee College of Engineering. CAMMSE will address the FAST Act research priority area of *"Improving Mobility of People and Goods"* by focusing on developing advanced technology, methods and models for multimodal transportation (including highway, air, rail, freight, public transit, bicycle and pedestrian) as well as educating and developing an effective workforce. A collaborative research, education and outreach partnership will harness advanced (computing, smartphones and communication) technologies and ubiquitous data for creating sustainable, efficient and growth-enabling multimodal transportation systems using cutting edge analytical methods and models. As a result, research performed by the Center will deliver impactful products to local, regional, and national stakeholders that support economic development, significantly improve mobility of people and goods, reduce congestion, promote safety and social equity, preserve the environment, and preserve the existing transportation system

The Department: The faculty of CEE Department are experts in their field and internationally recognized for their research while our program attracts students from all over the globe. We offer an undergraduate program that leads to a Bachelor of Science degree in Civil Engineering (B.S.C.E.), with the option of graduating with a concentration in one of six civil engineering areas: Structures, Geotechnical Engineering, Transportation, Environmental/Water Resources Engineering, Land Development Engineering, and Energy Infrastructure. Our graduate programs include a Master of Science in Engineering (M.S.E.), Master of Science in Civil Engineering (M.S.C.E.), and a Doctor of Philosophy (Ph.D.) degree in both the Infrastructure and Environmental Systems (INES) and the Civil Engineering (CE). The faculty and staff of the Civil and Environmental Engineering Department are committed to creating an environment in which our students are able to thrive, while we prepare them to become the future problem solvers of the world and leaders within the engineering profession. We encourage you to spend some time exploring our website and learning about the wonderful opportunities for education and research that exist within the Department of Civil and Environmental Engineering.

The College: The Williams States Lee College of Engineering has approximately 4000 students in five departments. Research awards in the Lee College of Engineering represent nearly a third of the university total. The College of Engineering prides itself on its excellence in undergraduate and graduate education, and is home to several interdisciplinary research centers: the Energy Production Infrastructure Center (EPIC), the Center for Biomedical Engineering Systems (CBES), the Center for Precision Metrology (CPM), the NC Motorsports and Automotive Research Center (NCMARC), the Asset and Infrastructure Management (AIM) Center, and the Center for Advanced Multimodal Mobility Solutions and Education (CAMMSE). Our students and faculty also participate in numerous other research centers on campus. The

college is closely connected to many businesses and government agencies in the region and state, and economic development is an important part of the college's mission.

The University: UNC Charlotte is North Carolina's urban research university, and the only doctoral research university in the Charlotte metropolitan area. It is the third largest of 17 institutions in the University of North Carolina system with over 1100 full-time faculty, 23 doctoral programs, 62 master's programs, and 77 bachelor's programs. Fall 2017 enrollment exceeds 29,000 students, including 5,400 graduate students. UNC Charlotte is the fastest growing campus in the UNC system, accounting for over 40% of enrollment growth in the entire UNC system since 2009.

The Charlotte Region: Charlotte is the most populous city in the U.S. state of North Carolina. Located in the Piedmont, it is the county seat of Mecklenburg County. In 2017, the U.S. Census Bureau estimated the population was 859,035 making it the 17th-most populous city in the United States. The Charlotte metropolitan area's population ranks 22nd in the U.S., and had a 2016 population of 2,474,314. The Charlotte metropolitan area is part of a sixteen-county market region or combined statistical area with a 2016 census-estimated population of 2,632,249.

Between 2004 and 2014, Charlotte was ranked as the country's fastest-growing metro area, with 888,000 new residents. Based on U.S. Census data from 2005 to 2015, it tops the 50 largest U.S. cities as the millennial hub. It is the second-largest city in the southeastern United States, just behind Jacksonville, Florida. It is the third-fastest-growing major city in the United States. It is listed as a "gamma-minus" global city by the Globalization and World Cities Research Network. Charlotte is the nation's number one tech town. Residents are referred to as "Charlotteans".

Charlotte is home to the corporate headquarters of Bank of America and the east coast operations of Wells Fargo, which along with other financial institutions has made it the second-largest banking center in the United States since 1995.

Among Charlotte's many notable attractions, some of the most popular include the Carolina Panthers of the NFL, the Charlotte Hornets of the NBA, the Charlotte Checkers of the AHL, the Charlotte Independence of the USL, the Charlotte Hounds of Major League Lacrosse, two NASCAR Cup Series races and the NASCAR All-Star Race, the Wells Fargo Championship, the NASCAR Hall of Fame, the Charlotte Ballet, Carowinds amusement park, and the U.S. National Whitewater Center. Charlotte Douglas International Airport is a major international hub, and was ranked the 7th-busiest airport in the world by passenger traffic in 2018.

Charlotte has a humid subtropical climate. It is located several miles east of the Catawba River and southeast of Lake Norman, the largest man-made lake in North Carolina. Lake Wylie and Mountain Island Lake are two smaller man-made lakes located near the city.

In summary, Charlotte is one of the nation's fastest growing metropolitan areas and is the second largest banking/financial center in the nation. Construction, energy, healthcare, and manufacturing industries are also key components of the Charlotte business community. The Greater Charlotte region is home to more than 270 Fortune 500 Companies. The community enjoys a multicultural population, an array of artistic offerings, a wealth of public health and healthcare resources, a world-class airport, thriving professional sports franchises, and the beauty of the nearby Blue Ridge Mountains.