

## AIM REU Summer 2018 Highlights

The Advanced Infrastructure Materials Research Experience for Undergraduates (AIM-REU) site at the University of Louisiana at Lafayette (UL Lafayette) was established with the support from National Science Foundation (NSF) in 2018. The goal of the AIM-REU site is to offer hands-on research and training opportunities in advanced infrastructure materials to promote the workforce development in infrastructures and infrastructural materials.

AIM-REU welcomed its first batch of four undergraduate researchers this past summer. During the ten-week program, the participating students worked with faculty members on a wide array of research topics related to advanced infrastructure materials. These highly merited work have already resulted in two conference presentations. One of our REU student Nathan Heim worked on soil-recycled aggregate geopolymer materials and evaluated their potentials as pavement base and subbase layers, and his work has been accepted for presentation at the Transportation Research Board Annual Meeting in January, 2019 in Washington, D.C. Another student Jorge Hernandez also presented his REU work on nanoengineered adhesives for bridge applications at the 20<sup>th</sup> Annual Philadelphia Research Symposium and Mentoring Conference in November, 2018. Through working on these research topics, the students gained valuable research experience and in-depth understanding of the infrastructure related issues.

Aside from the scholarly goals, the program took two trips over the summer to two research centers. At the beginning of the summer, the program visited the Louisiana University Marine Consortium in Chauvin, LA where the students kayaked, took a lengthy boat ride and learned about the challenges to the coastal infrastructure. The next trip was to the Louisiana Transportation Research Center (LTRC) in Baton Rouge, LA. There the students were able to see how advanced infrastructure materials were tested and used to meet Louisiana's transportation needs. The LTRC trip allowed the students to see how their own research was of importance to Louisiana and the United States' real transportation needs. Both of these activities provided the students valuable insights into the significance of the subject.

Here are some quotes from the students during their exit surveys expressing the impact of the REU program: "Our infrastructure throughout the country is deteriorating and is impacting or will impact our everyday lives. It is now up to us, our generation, to fix it. So it's very impactful with the research we're doing here." "In this program we were conducting research, which means sometimes you don't know what is going on, or you don't know the outcome, but that's the point. It's research. I felt lost sometimes, but that was because I'm used to learning from a text and not having to ask questions. Now

I'm more confident and better at conducting research." These comments demonstrated the success of our first summer program and we are looking for continuing this success in the following years.



Dr. Qian Zhang (director of the AIM-REU) and AIM-REU students of Summer 2018