Research Project Descriptions

UTC Project Information	
Project Title	**Mitigating Dry Shrinkage Pavement Cracking by Geocell**
University	Oklahoma State University
Principal Investigator	PI: Xiaoming Yang, Oklahoma State University (OSU) Co-PI: Rifat Bulut, Oklahoma State University (OSU) Co-PI: Joshua Qiang Li, Oklahoma State University (OSU)
PI Contact Information	Xiaoming Yang; xmyang@okstate.edu; 405-744-5223
Funding Source(s) and Amounts Provided (by each agency or organization)	SPTC: $74,672.00 Oklahoma State University: $82,637
Total Project Cost	$157,309
Agency ID or Contract Number	DTRT13-G-UTC36 SPTC 15.1-06
Start and End Dates	4/01/2016 – 3/31/2017
Brief Description of Research Project	**PROBLEM**: Dry shrinkage cracking in pavements is currently one of the most outstanding geotechnical problems in southern plain states such as Oklahoma, Texas and Louisiana. Many studies have been conducted and technical solutions have been developed in recent years to try to understand and mitigate the dry shrinkage cracking problem. However, the effectiveness of these solution often depends on the soil type, pavement structure, and environmental conditions. **PROPOSED SOLUTION**: This project explores an innovative approach to mitigate the dry shrinkage cracking problem in pavements using a three-dimensional geosynthetic product named geocell. In addition to reducing soil shrinkage, the new approach aims to direct the soil shrinkage to form a network of smaller cracks which are less likely to propagate through the pavement layer than larger continuous cracks. The outcome of the research will potentially bring significant impact to both regional transportation agencies and other parts of the world with similar soil conditions.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	
Impacts/Benefits of	

Implementation (actual, not anticipated)	
Web Links • Reports • Project website	