MarTREC UTC Project Information Form

USDOT Tier 1 University Transportation Center

Agency ID or Contract Number 69A3551747130

Project Title: Green technology approach for capturing pollution washed from transportation infrastructures
Project Abstract (Brief Description): The aim of proposed study is to produce and investigate a carbon-based substance, namely biochar, as a new material for the in-situ adsorption of pollutants carried by the stormwater runoff from the roads. A series of lab-scale experiments will be designed to optimize biochar's microscopic structures and to determine its adsorption capacities. The particular source material, and applied techniques for obtaining biochar may influence its final properties; therefore, the initial set of experiments will be focused on testing properties of biochar manufactured by different techniques, temperature set-ups and oxygen-free environments. The long-term spin-offs from proposed research are aimed toward (a) development of the new substance based on biochar that could be used for the emergency recovery of spills, and (b) exploring possibilities of using biochar as an addictive to pervious concrete or asphalt.
Describe Implementation of Research Outcomes (or why not implemented) - Place any photos here *To be determined upon conclusion of the project*:
Impacts/Benefits of Implementation (actual, not anticipated) *To be determined upon conclusion of the project:*
Web Links: martrec.uark.edu
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): 57,500 + 28,750 = $86,250
Project Start and End Dates: March 2018 – November 2019. Project complete
Principal Investigator(s) and Contact Information: : Danuta Leszczynska, Department of Civil and Environmental Engineering, tel 601-979-1091; danuta.leszczynska@jsums.edu
Principal Investigator Institution (University): Jackson State University