



Department of Civil and Environmental Engineering

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Re: PhD Student Opportunity in Water Resources – Spring 2015

Project Description

Trees have many important functions within the urban environment including air quality improvements, wildlife habitat, and mitigation of the heat island effect; however, their contribution to green infrastructure used for stormwater management is not well understood. There is a critical need to understand the health and role of trees in these systems (specifically compared to other vegetation types) to enable urban foresters and engineers to select the most appropriate plant material to maximize functionality of natural stormwater treatment systems. The goal of this project is to demonstrate the role of trees in bioretention areas in the eastern United States and beyond, and to make recommendations regarding system design and tree species selection to maximize bioretention area functionality and tree health.

A high quality Graduate Research Assistant is being sought to contribute to a research program that integrates innovative stormwater management, natural systems, and urban sustainability. Expected start date is January 1, 2015. Students who have completed or are currently completing a master’s degree are preferred. Applications will be received until August 15.

Contact: <http://hathaway.utk.edu> Specific inquiries can be made to **Jon Hathaway, PhD, PE:** hathaway@utk.edu



Brand new facilities in the John D. Tickle Engineering Building, home of the Department of Civil and Environmental Engineering



View of the Smoky Mountains from atop the Chimney Tops Trail in Great Smoky Mountains National Park

About Knoxville

Our historic and revitalized downtown, just a few blocks from campus, is always abuzz with shows and celebrations, bringing thousands of visitors for events like the [Boomsday](#), [Christmas in the City](#), and [Dogwood Arts](#) festivals. Downtown Knoxville showcases eclectic dining and shopping, a weekly outdoor [downtown farmers’ market](#), two historic theatres, art galleries, and museums. The region’s rich and progressive music scene features everything from local hip-hop concerts at shoebox-sized clubs to large acts at a 1,000-seat 1920s art deco theatre. Lakes and rivers scatter the landscape and 65 miles of greenway trails make Knoxville an outdoor adventurer’s paradise. The Knoxville area offers more than 80 parks, including the 1,000-acre [Knoxville Urban Wilderness](#) located just ten minutes from the University. The Urban Wilderness offers an abundance of hiking, mountain biking, canoeing, trail running, and an escape to nature just miles from downtown Knoxville. To top it off, less than an hour away is the [Great Smoky Mountains National Park](#), with over 800 miles of maintained trails in an exceptionally diverse ecosystem.