

# TWRI Mills Scholarship Application

## 1. Name of Student

Name: Reema Padia

## 2. Contact Information (Student)

## 3. Name and Contact Information (Committee Chair)

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## 4. Description of the proposed research

Cedar creek watershed is located in North Central Texas. Part of Cedar creek is impaired due to bacteria and listed in 303(d) list (TCEQ, 2006). Thus, there arose a need to assess the various potential sources of *E. coli* in the watershed.

My research will mainly focus on identification, characterization, and quantification of *E. coli* loads resulting from various sources in Cedar creek watershed. Specific objectives of my research are to monitor survival, growth, re-growth, and die-off of *E. coli* under different environmental conditions (temperature, moisture, and pH). The potential *E. coli* loads calculated will then be incorporated in Spatially Explicit Load Enrichment Calculation Tool (SELECT) to predict *E. coli* loads resulting from various identified sources in Cedar creek watershed. The results and findings will help protect and restore the water quality from point and non-point source pollution in Cedar creek watershed. The ultimate outcome of this research will aid in Watershed Protection Plan (WPP) development and Total Maximum Daily Load (TMDL) development to address impairment due to bacteria in the State of Texas.

### Reference:

TCEQ 2006. 2006 Texas Water Quality Inventory and 303(d) List. (Accessed on 06/12/2008)  
<http://www.tceq.state.tx.us/compliance/monitoring/water/quality/data/06twqi/twqi06.html>

## **6. Proposed Use of Funds**

I plan to use the scholarship funds to present my research and findings at a National/International conference.

## **7. Intended Career Path**

After attaining Masters Degree in Biological and Agricultural Engineering (with specialization in water quality) my immediate goal is to seek a career in environmental engineering through an environmental engineering firm. After gaining significant amount of experience in the engineering profession, I also plan to obtain my license as a professional engineer. My long term goal is to start a consulting firm which would focus on water needs and water quality issues. As a consultant, I'll help my clients assess their existing facilities and determine their water quality concerns and provide them with recommendations to meet the local and state regulations.