DESCRIPTION OF RESEARCH PROJECT/INTERNSHIP

Sponsor: Princeton Environmental Institute
Position number: C1MYE2

Organization/research group name: Myneni Group
Project title: Role of Minerals on the Sorption and Cycling of Organic Carbon in the Environment

Project Summary:
Minerals strongly adsorb organic molecules in soils and sediments and protect them from weathering reactions. This is important for carbon cycle in the environment as the unprotected organic carbon in soils and sediments decays faster because of rises in temperature. Different soil minerals adsorb different types of organic carbon. However, it is not well understood how different soil minerals adsorb different forms of organic carbon and protect them from microbial decay reactions. In this study the students will conduct
a) laboratory sorption studies between synthetic minerals and organic carbon collected from stream waters, and
b) characterize the reactions using NMR, infrared, and mass spectrometry.
Obtained results will help in finding which minerals preserve organic carbon better.

Role and responsibilities:
The students will conduct experiments in the lab for the sorption of organic carbon, and will also participate in conducting spectroscopy studies (NMR and mass-spec in chemistry and infrared and fluorescence in my laboratory).

Website (if available):

Faculty sponsor/host (name/department): Satish Myneni/Department of Geosciences
Email contact: smyneni@princeton.edu

Location of internship: Guyot Hall
- Note: If this internship is located in a country that appears on the U.S. Department of State Travel Warning List, final candidates will be instructed to request and receive University approval to travel to that country before participation in the internship program is confirmed.

Weekly stipend: $500
Number of internships available: 2

Proposed start date (mm/dd/yyyy): 06/01/2016
Total number of weeks: 8+

Proposed end date (mm/dd/yyyy):
- Note: The funding awarded for this position is for full-time work, 35 hours per week minimum, for a period of no less than 8 contiguous weeks.
**INTERNSHIP SUPERVISOR**
Name and title: Satish C. B. Myneni
Email: smyneni@princeton.edu Phone: 609-258-5848

**EXPERIENCE REQUIRED**
Academic background: Good chemistry background. CHM303 is ideal

Technical skills: Laboratory experience with making solutions and ability to conduct spectroscopy studies

Language fluency: -

**OTHER**
Prerequisites / training: Chemistry laboratory experience is necessary

Physical demands:
Equipment requirements: The students will work with natural materials.

Visa(s) required? Yes No
Immunizations required? Yes No
Research permit/pass required? Yes No

Additional internship information:

Priority application deadline: January 8, 2016
- Applications received after the priority deadline will be reviewed on a rolling basis.
- Untilled positions will remain open until March 23, 2016.