

**SOIL 5583 Request for Proposals in Soil Physics Research
Fall 2014**

The instructor *invites* proposals for soil physics research from each student enrolled in SOIL 5583. Proposals on any soil physics-based topic are welcome. Proposals should be prepared according to the guidelines in the handout titled “Creating an effective research proposal”.

Funding: One project will be funded for up to \$1,000.

Timing: The grant will be awarded to support one semester project. The project must be able to result in a research manuscript before the end of the semester.

Teams: Students may submit proposals as sole principal investigators (PI) or may form a team of collaborators (co-PI's). Teams must identify a PI and must submit a single unified proposal. The maximum number of members on a team is two if four or fewer students are in the course and three otherwise. A student can be a member of, but cannot lead, more than one proposal team. *Every student must be a PI or co-PI on at least one proposal.*

Topics: Proposals must address a meaningful science question related to the physical properties of the soil, the soil water balance, the surface energy balance, contaminant transport in soil, or greenhouse gas emissions from soil. The project must incorporate one or more soil physics measurement techniques.

Application guidelines: One page pre-proposals consisting of the “Overview” and “Significance” sections described below are due in class on *August 29, 2014*. Full proposals are due at the start of class on *September 5, 2014*. Grant recipients will be announced in class on *September 12, 2014*.

Proposals must consist of the following:

1. Basic Information: Include the project title and the name of the principal investigator (PI).
2. Overview: This section should identify the research need, specify the objective(s) of the proposal, briefly describe the research approach, and identify the project outcomes.
3. Significance: This section should demonstrate the significance of the project in light of the existing literature and the on-going research of the PI. The impact that the research is likely to have should be described.
4. Materials and methods: A concise but specific description of the methods to be used in the project, supported by literature citations as needed.

5. Budget: Project budget should consist of an itemized list of supplies, equipment, and travel needed to complete the project. List any existing equipment which will be used in the project but do not assign any costs for that equipment in the budget. Travel costs should be calculated using the rates shown on the OSU Transportation Services webpage (<http://osuts.okstate.edu/Leasing/Leasing.htm>).
6. Timeline: Provide a realistic schedule for completing data collection activities with the help of the entire class. Be specific. Approximately two weeks of class time may be requested for class participation in the research project. The timeline should also include designated time for the PI to complete data processing, manuscript writing, and manuscript revision.
7. Investigator qualifications: Provide a one page resume for the PI.

Items 1 through 6 must not exceed a total of *five pages*, single spaced with 12 point font and 1" margins.

Proposal review:

Each student will review and rank all the proposals of the other students. The instructor will select a proposal to fund based on the peer reviews and his own rankings. The evaluation criteria for the proposals are:

1. Scientific merit
2. Class participation potential
3. Probability of success
4. Soil physics relevance

Product:

The successful PI or team must write a manuscript of a format and quality suitable for submission to a peer-reviewed journal. The manuscript will undergo peer-review by classmates. The PI or team must then revise the manuscript in response to the review comments. The project must lead to the submission of a draft research manuscript by *November 26, 2014* and a revised manuscript by the time of the Final Exam, 1:30 p.m. on *December 10, 2014*.