

# Remote Sensing/Airborne Observation Platform Internship (Summer 2017)

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This intern will focus on LiDAR data processing to improve classification of LiDAR point clouds through site specific parameter selection OR assess uncertainty in higher level LiDAR data products through empirical experimentation.

## Essential Duties

Intern duties will primarily focus on designing algorithms to test parameter selection (through parameter sweeps) of LiDAR classification routines, or contribute to existing algorithms through code writing to assess uncertainty in higher level LiDAR data products. In both cases, intern will then perform statistical analyses on results to develop conclusions and present results to NEON science staff.

## Reports and Presentations

- Prepare technical documentation, including software design diagrams, as well as user facing documentation on the work completed through the internship.
- Present project status to NEON science team and peers for feedback periodically throughout the summer.
- Present final scientific poster to NEON science team and peers at final Intern Poster Session at end of the summer program.

## Seminars and Departmental Meetings

Participate in technical and career seminars and meetings with NEON science staff, NEON Internship program staff, and peers.

## Community and Professional Behavior

Interns are part of a diverse community of peers working and living together. Interns are expected to contribute positively to the community and to conduct themselves in a manner appropriate to a professional environment. Interns are also expected to fully participate during normal office hours and during NEON Internship functions.

## Decision Making and Problem Solving

Interns will use basic problem solving skills in their work, will exercise judgment regarding when to ask for help, and will consult with their supervisor or mentor on larger job or community related issues.

## Education and Experience

### Required:

Currently enrolled in an undergraduate imaging science, ecology, geography, physics, environmental science, computer science, or related science program with some programming experience (e.g., Python, Matlab, IDL, Java, or C++). Must have a least one semester of college remaining after the summer program.

### Desired (but not required)

Preferred applicants will have completed the equivalent of at least two years of college, and have had at least one lab course with data analysis and statistics component. Additionally, preferred applicants will have had coursework in GIS or image processing with remote sensed imagery such as LIDAR, Landsat or, MODIS.

### Knowledge/Skills/Abilities

- Ability and willingness to learn and use appropriate LiDAR data processing and analysis software (e.g., LAStools)
- Basic understanding of computer programming in one or more of the following: Python, Matlab, IDL, Java, C++.
- Experience with common geospatial analysis software packages (ArcGIS, QGIS, ENVI)
- Experience with probability theory
- Skill in the use of software for communication purposes (e.g., Word, PowerPoint, Excel).
- Basic problem solving skills.
- Ability to work with a diverse group of peers.
- Good oral and written communication skills.
- Potential to excel in science career.
- Ability to work full-time in Boulder, CO.
- Ability to interact with mentors and peers in a manner that supports collaboration and inquiry.
- Ability and willingness to work within guidelines and policies of the organization and assigned work groups.
- Ability and willingness to work in a typical office environment.

### Other Requirements

You must have permanent authorization for US employment. Battelle Ecology, Inc. will not provide any kind of visa sponsorship.

**Application Information:** [www.neonscience.org/research-internships](http://www.neonscience.org/research-internships)