

Atmospheric and Oceanic Sciences

COLLEGE OF ARTS & SCIENCES

Internship Opportunity Form

Organization: National Renewable Energy Laboratory

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Number of interns requested for: Flexible in terms of number of students and semester

Spring _____ **Summer** 2020 _____ **Fall** 2020 _____

(For most projects there will be opportunities for 1-2 students. Scope of work, length of project and amount of time spent to be discussed with interested students)

How many hours do you want the student to work per week and do you have any preference how these hours are distributed (half day, full day, every day)?

8 hours per week will be divided into two half days. It can be adjusted based on the student's preference.

Nature of project(s) Please fill in some ideas of what student(s) could do in each category during the internship.

1. Research (e.g., Data analysis, hands-on experience, instrumentation development, testing, or maintenance)

Wind farm data analysis:

Lidars (light detection and ranging) are used to collect wind turbine wake data through a field campaign. The student will mainly analyze the lidar data to explore the wake interactions under different atmospheric stability regimes.

2. Communications (presentation, report, poster)

At the end of the project, the student will make a powerpoint presentation, a poster, and a final report. The presentation will be given either at an NREL internal meeting, and/or at a local student conference such as ESSS Poster Conference (Fall in Boulder).

3. Professional Skills (responsiveness, software skills – e.g., GitHub, Python, Slack, Word processing, Excel)

The student is expected to take ownership of the internship, which means timely response to questions or emails from the host institution and the faculty member, raising questions and concerns professionally and in a timely manner. The student is expected to have basic programming skills and work with the software used at the host institutor (e.g. Python, GitHub, Word, Excel), while the host will also provide support and help.

4. Professional Interactions (e.g., seminar, individual project meetings, professional networking)

Professional networking: The work will be presented in a prestigious conference (Wind energy science conference or NAWEA conference). The student will be encouraged to participate in NREL seminars and group meetings during the visits at NREL.

5. Leadership (attending meetings)

Meet with NREL Leadership to discuss career advancements and leadership.

Skills required:

- Good programming skills (Python) and for some of the projects experience with the Unix environment is also needed.
- At the very least, fundamental understanding of remote sensing and boundary layer meteorology.
- Good communication skills