

Ph.D. Assistantship in Energy Physics at Wesleyan University
Renee Sher -- Assistant Professor, Fall 2016

Investigating the fundamental physics behind energy materials has led to many new technologies such as organic photovoltaics and light emitting diodes. The next generation of solar cell materials utilizes new device structure and intentionally introduced defects to increase sun light absorption. In addition to improved light absorption, charge carrier separation and transport properties are also essential for determining the energy conversion efficiency. The typical time scale for these dynamics is sub-picosecond. We use time-resolved terahertz spectroscopy, an electrode-less and all optical technique, to probe the ultrafast dynamics. Together with complementary optical pump-probe measurements, we study the fundamental charge carrier generation and transport processes. The goal of our research program is to understand the underlying physics of energy materials and to guide future developments.

Students should be highly motivated and have an interest in novel photovoltaics and ultrafast carrier dynamics. Tuition stipend will be provided.

Wesleyan University is a highly selective private liberal arts university. Wesleyan emphasizes undergraduate instruction in the arts and sciences but also supports and funds graduate research in many academic disciplines. Wesleyan grants Ph.D. and Master's degrees primarily in the sciences, mathematics, and computer science. The graduate program at Wesleyan retains a small college atmosphere similar to the undergraduate program combined with a highly competitive graduate research program. For example, departments feature small administrative staffs, close student - faculty interaction, and open laboratory facilities.

Interested students should contact:

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