

## **Ph.D. Assistantship in Single-Molecule Biophysics at Wesleyan University**

Proteins and DNA constantly interact with one another and are inextricably linked by the Central Dogma and the critical need for maintenance and faithful transfer of genomic information from mother to daughter cells. Most established techniques for studying protein-DNA interactions are heavily biased toward stable, long-lived interactions. Yet many important interactions are transient and dynamic, and therefore difficult to observe and characterize using these methods. Furthermore, the mechanisms of many proteins that modify DNA are poorly understood. Our laboratory specializes in developing new tools and approaches to study proteins that interact with and/or modify DNA. In particular, we utilize Total Internal Reflection Fluorescence (TIRF) microscopy and single-molecule Förster Resonance Energy Transfer (smFRET) to achieve these goals.

A background in physics, biochemistry, or molecular biology is required. Students should be highly motivated and have an interest in high resolution optical microscopy, image analysis, and modeling of biological systems. Tuition and 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 PhD 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:

Dr. Candice M. Etson

200 Boston Ave. Suite 4800

Medford, MA 02155

[candice.etsen@tufts.edu](mailto:candice.etsen@tufts.edu)