

FULLY FUNDED DEPARTMENT OF ENERGY BIOFUELS RESEARCH INTERNSHIP AT PACIFIC NORTHWEST NATIONAL LABORATORY



Position Description

The overall project objective is to utilize marine microalgae for biofuels production (i.e., lipids for biodiesel or jet biofuel). The student will set up a series of photobioreactors for the cultivation of marine microalgae. This will involve preparing sterile medium using the autoclave, inoculating the photobioreactors and monitoring the biomass concentration, measured as optical density using a spectrophotometer and as dry weight using an oven and balance, as a function of time. At specified time intervals, samples will also be taken for lipid extraction by solvents and analysis by gravimetry and gas chromatography. Throughout the experiment, the light intensity, pH, nitrate concentration, and temperature of the cultures will be monitored. We will also carry out culture experiments in small LED-lighted and temperature-controlled pilot-scale ponds (1000 liters each) located next to Sequim Bay, Washington, for clean seawater access. All data will be analyzed using Excel spreadsheet software and a final report will be written for the Department of Energy. The position is located in Sequim, WA. The internship begins in mid-January 2015 and lasts 16 weeks. The stipend is \$500 per week. Housing allowance and travel reimbursement are provided.

Required Qualifications

The applicant must be a junior, senior, or recent graduate (BS/BA within 1 year) with a background in microbiology, chemistry, biochemistry, or biochemical/chemical engineering. The applicant must have basic laboratory skills and must have successfully completed laboratory course work. US citizenship or Permanent Resident status is required. The applicants' resume should include the GPA, a list of laboratory courses, and a brief (<150 words) essay explaining their interest in this position.

Please email your application no later than
August 22, 2014, to Dr. Michael Huesemann,
michael.huesemann@pnnl.gov.

(The photo shows the location of lab in Sequim, WA)

