

From: Forest Ecology
Subject: Recruiting Interns, Hubbard Brook and Bartlett Experimental Forests

About the Project: Multiple Element Limitation in Northern Hardwood Ecosystems (MELNHE) is an NSF-funded project that seeks to examine the limits to forest productivity in the context of resource optimization theory. Experimental tests of N and P limitation in temperate forest systems are few, and those few have been short-term with very high rates of fertilization. In 2011 we began long-term low-level additions of N, P, and N+P in 13 forest stands distributed across three sites in the White Mountain National Forest of New Hampshire. At Bartlett Experimental Forest, which is underlain by granite, we have three young, three mid aged, and three mature stands. At both Hubbard Brook Experimental Forest, on granodiorite, and Jeffers Brook on amphibolite (metamorphosed basalt), we have one mature and one mid-aged forest stand. Each stand has four plots treated annually with N (30 kg N/ha/yr as NH₄NO₃), P (10 kg P/ha/yr as NaH₂PO₄), both N and P, and control. These treatments allow us to test for NP co-limitation and to challenge balanced forest nutrition and thereby induce mechanisms that maintain co-limitation. More information on the project is available at https://urldefense.proofpoint.com/v2/url?u=http-3A__www.esf.edu_melnhe&d=DwIF-g&c=Ngd-ta5yRYsqeUsEDgxcqsYYY1Xs5ogLxWPA_2Wlc4&r=e2OJ1azRFn8ihJzb2HxZT0AqoiqLvxfeeTyN59ZLoI&m=ZYQuHJT_jo6xtZSB7dEh1VnJyOai-4A4Oe4BFFKbYtc&s=kqS2SC5yJykAGrC_mVVGd295bBOEZVZb1lxDN0IDj9E&e=, including a blog from previous field crews.

Internship Description: Interns will be guided in the design of their research projects and will interact closely with graduate students and senior research scientists. Research projects could include the effects of nutrient addition on fine and woody litter production, seed rain, tree water use (sap flow), soil respiration, and canopy spectral properties, which involves ground truthing remotely sensed tree crown locations. Interns will gain a wide variety of skills by assisting in all ongoing projects. Interns have the opportunity to present their results at the annual Hubbard Brook Cooperators Meeting in July.

Interns are provided with shared housing at Bartlett Experimental Forest; tenting is optional. Work days typically begin at 8:00 and end at 4:30, but may be shorter or longer depending upon the day's activities. Food is prepared communally by the interns and graduate student researchers, and costs generally run between \$5-6 per day. A stipend of \$200 per week is provided for living expenses.

Desired Qualifications: Ideal applicants will have a strong interest in forest biology, ecology, or biogeochemistry. Undergraduate students and recent graduates will be considered. A positive attitude is important and a sense of humor is a plus. Willingness to work and live in a communal setting is critical. Candidates should be able to perform repetitive tasks with attention to detail in a field setting under adverse conditions. Applicants should be flexible in their expectations, but an estimated breakdown of the summer is: 60% fieldwork, 15% lab work, 10% data management, and 15% research proposals and reports of independent projects.

To Apply: Please send a letter of interest, resume, and contact information for three references to Alex Young, aryoung@syr.edu. Interested students should apply by Friday, March 9th, but applications will be accepted until the positions are filled. Applications will be reviewed in the order in which they are received. The field season will begin on June 4 (arrive June 3) and end on August 10 (depart on August 11).