



# SUMMER 2014 INTERNSHIP

with  
**PENN STATE UNIVERSITY**

**Background Information:** : In efforts to restore blight-resistant, timber-type, and locally-adapted American chestnut trees, Penn State University works with The American Chestnut Foundation (TACF) to capture as much of the original genetic diversity of the tree as possible. Volunteers have put in extensive effort to locate, identify, hybridize, and collect seed from native American chestnut (*Castanea dentata*) tree sprouts across the Pennsylvania and beyond. They have also planted thousands of seeds collected from open-pollinated trees in gene pool repository orchards. Over 75,000 trees have been planted as part of the effort to restore the species.

This internship will provide quality hands-on work experience with applied science, particularly as in regards to tree improvement, genetics, breeding, forest tree pathology, and silvicultural and horticultural techniques, especially as they apply to chestnuts.

## **Project Description and Responsibilities**

- (1) Assist in planting and general orchard maintenance at PSU chestnut research orchards and beyond. Most of these will be in Pennsylvania, but others will be in neighboring states or even further away, depending on time available. This maintenance will include the use of equipment such as chainsaws, tractors, and weed-whackers.
- (2) Assist in inoculation programs in the beginning of the summer. Inoculation is the process by which we measure blight-resistance of our hybrid chestnut trees.
  - a. The intern will participate in the process from creating and maintaining fungal cultures through the process of tree testing. This summer, we will also be evaluating a novel inoculation method.
  - b. For more information on the inoculation procedure, please visit this site:  
<http://ecosystems.psu.edu/research/chestnut/breeding/inoculation>
- (3) Travel throughout the mid-Atlantic with a pollinating team throughout late June and early July. The intern will be taught on the biology of chestnut flowering the process of controlled pollinations of chestnut, and, most importantly, assist others with pollinations. The intern will challenge their communication and people skills by traveling throughout the mid-Atlantic, meeting volunteers and assisting them in the pollination process.
- (4) There is potential for an intern to help collect ecological monitoring data on a stand of naturally-regenerating American chestnuts in Maine. This trip usually takes place in July and requires up to two weeks of travel.

**Expected Products:** Within one year following the internship experience, two products will be expected: 1) article summarizing the summer's experience for publication in the PA-TACF

newsletter, *The Chestnut Tree*; and 2) a summary of pollination and inoculation efforts.

**Qualification/Experience:** The student should be precise, observant and have good training in forest dendrology, ecology, and mensuration. Good organization skills are a must. The intern should be good at working with people and enjoy working outside, know MS Excel, and be somewhat experienced with GPS and GIS technology. Note that some training in all of these products will be provided.

Experience using and maintaining equipment such as weed-whackers, tractors, and chainsaws is a plus.

The would-be intern should also be a good traveler. **The student must provide his or her own automobile and have a flexible work schedule, i.e. be able to work some long days and sometimes stay overnight on the road.**

**Additional Information:** There will be ample opportunity for an intern to learn and evaluate various non-profit management styles, learn several lab and field-work techniques (from inoculum production to various chestnut silvicultural practices), to challenge communication and person skills, and learn about working within a University structure. Depending on the final project's scope, there will be potential for write-up and publication in the Journal of The American Chestnut Foundation.

**Remuneration:** \$4500 is the flat salary or the internship (mid-May through mid-August). PA-TACF will provide supplies needed and up to \$1500 for travel and lodging during travel.

**How to Apply:** Application is easy. Simply send a cover letter and resume with three references to:

Sara Fitzsimmons  
e-mail: [sff3@psu.edu](mailto:sff3@psu.edu)

**For more information on our project, I recommend the following references:**

The American Chestnut Foundation: <http://www.acf.org>;

PA Chapter: <http://www.patacf.org>;

The Chestnut Growers website: <http://ecosystems.psu.edu/research/chestnut>