



Post-doctoral Research Position in Applied Plant Biotechnology

A post-doctoral position is immediately available to work on a collaborative [NSF-sponsored](#) research project on **plant propagation that combines bioreactor design principles with manipulation of transcription factors to induce embryogenesis**. The project is a collaboration between the laboratories of Mark Guiltinan/Siela Maximova in Horticulture <http://guiltinanlab.cas.psu.edu/> and the Curtis Laboratory in Chemical Engineering <http://sites.google.com/a/psu.edu/curtislab/wrc2/>. The post-doc will utilize DNA microarrays and other methods to identify regulatory genes involved in the early stages of embryo development. A major goal of the work is to then deliver these regulatory genes to plant tissues to induce embryo formation – using Cacao (chocolate tree) as the model experimental system. This will be accomplished using a transient gene expression technology that has been developed in the Curtis lab using auxotrophs of Agrobacterium, a bacteria that has the ability to deliver DNA into plant tissue culture. This transient gene expression will be carried out in bioreactor systems that have been designed specifically to facilitate embryo development based on enhanced gas and liquid contacting. The research will be executed collaboratively with a graduate and undergraduate students in Chemical Engineering. An outreach program to deliver plants to low-income Cacao farmers in South America is planned. Specific link that includes papers: <http://sites.google.com/a/psu.edu/curtislab/research-projects/transient-plant#TOC-Plant-Propagation>

To apply for this postdoctoral position, inquire with CV and a statement of interest to **Dr. Wayne Curtis** (wrc2@psu.edu copied to bgreenaway@engr.psu.edu). Please include “Embryo Postdoc” in the subject of the email to help identify the email.

Web Description	http://sites.google.com/a/psu.edu/curtislab/research-projects/transient-plant#TOC-Plant-Propagation
Location	Penn State University http://www.psu.edu/ State College, PA http://en.wikipedia.org/wiki/State_College,_Pennsylvania
Start Date	Immediately (duration up to 2 years)
Apply to:	wrc2@psu.edu copied to bgreenaway@engr.psu.edu

Additional Information about Penn State

Penn State Research: In 2009, Penn State ranked ninth nationally in science, engineering R&D spending.. Expenditures on science and engineering R&D in 2008-09 totaled about \$753 million, up by 7 percent from the year before.

<http://www.rps.psu.edu/>

Penn State Surroundings: State College is ranked in the top twenty of *Kiplinger's Personal Finance* magazine's "Fifty Smart Places to Live." The community is also consistently rated among the safest in the nation. The town surrounding Penn State (State College, PA) is a classic college town. There are hundreds of thousands of acres of State Parks and Forest Lands surrounding Penn State (Mt. Biking, Hiking, Fishing ... within 10 miles of campus)

http://en.wikipedia.org/wiki/Rothrock_State_Forest

Penn State Campus: The University Park campus itself hosts more than 50,000 students and employs 22,000 people. The Nittany Lion football team, a Big Ten Conference member, draws throngs to the 107,282-seat Beaver Stadium on campus. Among several other highly popular facilities are the 16,000-seat Bryce Jordan Center, an entertainment arena, and the Center for the Performing Arts, one of Pennsylvania's major cultural resources. Off campus, the Penn State Downtown Theater hosts a broad array of national and international performing acts in music, theater, comedy, and more.

www.psu.edu