Post-doctoral Position in Systems Bioengineering of Aquatic Crop Plants in the Lemnaceae Family

Department of Plant Biology; Rutgers, the State University of New Jersey

A post-doctoral position at the Department of Plant Biology of Rutgers University, New Jersey, USA - in the laboratory of Dr. Eric Lam - is available immediately as a component in a 4-year, DOE funded joint project between 5 laboratories focused on bioengineering of floating aquatic plants in the Lemnaceae family (aka Duckweed) for a new generation of sustainable biofuel crops.

Overview: As the angiosperm family that has the smallest plant species, duckweed also has the distinction of having the fastest growth rates ever recorded for plants. With the recent advance in duckweed genomics in which comprehensive mapping of all the key elements of genomic features (small RNAs, methylome, centromeric repeats, transposons) have been completed to produce a validated, high-resolution reference genome of *Spirodela polyrhiza*, the Greater Duckweed, and optimized transformation technologies for *Lemna minor*, this platform for sustainable agriculture and plant cell biology is poised to make major contribution to realizing the potential of this novel crop family for sustainable feedstock production. Our project will incorporate a combination of transcriptomic studies and systematic mining of natural variations in key traits of Spirodela and Lemna isolates in order to guide synthetic biology approaches for engineering new capabilities in this plant family. We will interact closely with other laboratories of our team that specialize in metabolic pathways and metabolite flux analyses, as well as duckweed transformation and chromosome engineering. As such, our interdisciplinary team will provide a rich environment and plenty of opportunities for an energetic, committed individual to interact productively with diverse experts in plant genomics, systems biology and synthetic biology.

Qualifications: The successful applicant should have a recent PhD degree in a Plant Biology-related discipline, or about to graduate with one, and will have skills and experience in Genomics and Bioinformatics. The position will require both experimental and computational abilities for the generation and analysis of NextGen sequencing datasets. Skills in R, Perl, Python or other programming language are preferred, but not required. Applications received by Dec 15th, 2017 will receive full consideration for the position.

Please send cover letter, resume and 3 letters of reference by email to: ericL89@hotmail.com.

Please mark the subject line of your e-mail: Duckweed Systems Sci Post-doc Application

Pertinent References:
"Comprehensive definition of genome features in Spirodela polyrhiza by high-depth physical mapping and short-read DNA sequencing strategies" (2016) Todd P. Michael, Douglas Bryant, Ryan Gutierrez, Nikolai Borisjuk,


Lam lab web page and duckweed information website:
http://rutgerslamlab.weebly.com
http://www.ruduckweed.org

Eric Lam
Distinguished Professor

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