



Apr 16th, 9:00 AM - 10:00 AM

A Transposon Mutagenesis Screen for Heterocyst Production in a $\Delta HETP$ Strain of the Cyanobacterium *Anabaena*

Rachel Ende
Illinois Wesleyan University

Loralyn Cozy, Faculty Advisor
Illinois Wesleyan University

Follow this and additional works at: <https://digitalcommons.iwu.edu/jwprc>



Part of the [Biology Commons](#), and the [Education Commons](#)

Ende, Rachel and Cozy, Faculty Advisor, Loralyn, "A Transposon Mutagenesis Screen for Heterocyst Production in a $\Delta HETP$ Strain of the Cyanobacterium *Anabaena*" (2016). *John Wesley Powell Student Research Conference*. 8.

<https://digitalcommons.iwu.edu/jwprc/2016/posters/8>

This Event is protected by copyright and/or related rights. It has been brought to you by Digital Commons @ IWU with permission from the rights-holder(s). You are free to use this material in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/ or on the work itself. This material has been accepted for inclusion by faculty at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P17

**A TRANSPOSON MUTAGENESIS SCREEN FOR HETEROCYST
PRODUCTION IN A $\Delta HETP$ STRAIN OF THE
CYANOBACTERIUM *ANABAENA***

Rachel Ende and Loralyn Cozy*
Biology Department, Illinois Wesleyan University

The ability for organisms to genetically control cellular differentiation is a fundamental question of development. The multicellular cyanobacterium *Anabaena* maintains the ability for vegetative cells to differentiate into specialized heterocysts capable of nitrogen fixation. The genetic network responsible for initiating and regulating this differentiation is not fully understood. To identify genes within this differentiation network, a heterocysts deficient mutant of *Anabaena* was subjected to transposon mutagenesis. A transposon, a piece of DNA capable of random insertion into the genome was introduced into this heterocysts deficient strain. Following the introduction of the transposon, the cells were grown on nitrogen-limited media containing antibiotic to select for cells in which the transposon had inserted into the genome and restored heterocyst function. These colonies were then analyzed with light microscopy to characterize the amount and pattern of heterocysts development and inverse PCR was performed to identify the specific location of transposon insertion within the genome. The genes identified through this screen will be the subject of future research.