



Illinois Wesleyan University
Digital Commons @ IWU

John Wesley Powell Student Research
Conference

2012, 23rd Annual JWP Conference

Apr 14th, 9:00 AM - 10:00 AM

The Development of A Novel Therapeutic for the Treatment of Sickle Cell Disease

Cody Wynn
Illinois Wesleyan University

Brian Brennan, Faculty Advisor
Illinois Wesleyan University

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

Wynn, Cody and Brennan, Faculty Advisor, Brian, "The Development of A Novel Therapeutic for the Treatment of Sickle Cell Disease" (2012). *John Wesley Powell Student Research Conference*. 22.

<https://digitalcommons.iwu.edu/jwprc/2012/posters/22>

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 P43

**THE DEVELOPMENT OF A NOVEL THERAPEUTIC FOR THE TREATMENT OF
SICKLE CELL DISEASE**

Cody Wynn and Brian Brennan*

Chemistry Department, Illinois Wesleyan University

Sickle Cell Disease is a genetic blood disorder caused by a point mutation in the gene which codes for hemoglobin in red blood cells. This mutation in the protein leads to the formation of long polymeric strands of hemoglobin that cause the red blood cells to misform into the characteristic sickled shape. These sickled red blood cells are too large to fit through capillaries and thus cause the problems associated with sickle cell disease such as anemia and tissue damage. Our approach towards developing novel therapeutics involves the production and screening of large libraries of small peptides which target the point mutation in an effort to discover ligands for the protein. Once ligands have been identified, we can determine if their interactions are sufficient to prevent protein polymerization. We will present some recent progress that we have made on this challenging biochemical problem.