

Annual Student Research Symposium Abstract Submission Instructions

Abstracts for the upcoming Department of Biological Sciences Student Research Symposium on April 10th, 2009 need to be a Word file in Times Roman 12-point font. The following format should be followed in preparing the abstract:

Student Name: (Your name as you want it to appear in the program)

E-mail: (An email address you can be contacted for confirmation or necessary revision)

Status: (Graduate student or undergraduate)

Faculty Advisor: (Your faculty mentor on the project)

Presentation Type: (Poster or Platform presentation)

Project Status: (Completed or In progress)

Abstract Title: (As you want it to appear in the program)

Abstract: (See below)

The narrative of the abstract must be 200-250 words and provide some introductory background, the importance of doing the work, and the methodology used for the research. In the case of work in progress, clearly state the possible significance of the potential findings. In completed studies, the major results and the conclusions from those results are to be clearly presented. The abstract should be written so it can be understood by a wide audience. Very specific jargon that is only understood by individuals in the specific field of interest should be avoided or kept to a minimum and clearly explained for the general audience.

All abstracts must be submitted electronically to Dr. M. A. Romano at M-Romano@wiu.edu by Friday, March 20th 2009. On the following page is an example of a suitable abstract:

Sample Abstract

Student Name: Shay Bradbury

E-mail: sg-bradbury@wiu.edu

Status: Graduate Student

Faculty Advisor: Shawn Meagher

Presentation Type: Platform

Project Status: Complete

RAPID EVOLUTION OF HOST SPECIFICITY IN *TRICHINELLA SPIRALIS*.

Host specificity is a measure of the number of hosts a parasite species can infect, and ranges from low (many hosts) to high (few hosts). Evolution of high host specificity can lead to increased reproduction and increased harm in one host species. Experiments with single-celled parasites have produced higher host specificity after serial passages, but few experiments have been done with multicellular parasites. In this experiment I have used a nematode parasite with low host specificity, *Trichinella spiralis*, to test whether host specificity increases after repeated generations in a new host, the white-footed mouse (*Peromyscus leucopus*). I have infected ten male mice of approximately the same age with 100 *T. spiralis* juveniles for five generations. Masses of the mice were taken weekly to check for an increase in harm to the host but no increased harm has been found. The worms were isolated from muscle, counted, and a linear regression used to see if *T. spiralis* reproduction increases with each generation. I have performed five generations of infections, and have found significantly higher counts in later generations ($F=5.284$, $p=0.008$). Reductions in biodiversity on a global scale have led to fewer available host species for generalist parasites. If generalist parasites evolve increasing host specificity, they may cause more harm in their remaining hosts.